

**LINKING AGREEMENT
BETWEEN
THE CITY OF GLENDALE, ARIZONA
AND
SIEMENS INDUSTRY, INC.**

THIS LINKING AGREEMENT (this "Agreement") is entered into as of this _____ day of _____, 2023, between the City of Glendale, an Arizona municipal corporation (the "City"), and Siemens Industry, Inc., a(n) Delaware Coporation authorized to do business in Arizona ("Contractor"), collectively, the "Parties."

RECITALS

- A. On July 1, 2020 under S.A.V.E Cooperative Purchasing Agreement, the City of Phoenix entered into a contract with Contractor to purchase the goods and services described in the Siemens Noncontact Level Meters ("Cooperative Purchasing Agreement"), which is attached hereto as Exhibit A. The Cooperative Purchasing Agreement permits its cooperative use by other governmental agencies including the City.
- B. Section 2-149 of the City's Procurement Code permits the Materials Manager to procure goods and services by participating with other governmental units in cooperative purchasing agreements when the best interests of the City would be served.
- C. Section 2-149 also provides that the Materials Manager may enter into such cooperative agreements without meeting the formal or informal solicitation and bid requirements of Glendale City Code Sections 2-145 and 2-146.
- D. The City desires to contract with Contractor for supplies or services identical, or nearly identical, to the supplies or services Contractor is providing other units of government under the Cooperative Purchasing Agreement. Contractor consents to the City's utilization of the Cooperative Purchasing Agreement as the basis of this Agreement, and Contractor desires to enter into this Agreement to provide the supplies and services set forth in this Agreement.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing recitals, which are incorporated by reference, and the covenants and promises contained in this Linking Agreement, the parties agree as follows:

- 1. Term of Agreement. The City is purchasing supplies and/or services from Contractor pursuant to the Cooperative Purchasing Agreement. According to the Cooperative Purchasing Agreement, purchases can be made by governmental entities from the date of award, which was July 1, 2020, until the date the contract expires on June 30, 2026 unless the term of the Cooperative Purchasing Agreement is extended by the mutual agreement of the original contracting parties. The Cooperative Purchasing Agreement, however, may not be extended beyond June 30, 2026. The initial period of this Agreement, therefore, is the period from the Effective Date of this Agreement until June 30, 2026. There are no renewal periods for this agreement.

2. Scope of Work; Terms, Conditions, and Specifications.
 - A. Contractor shall provide City the supplies and/or services identified in the Scope of Work attached as Exhibit B.
 - B. Contractor agrees to comply with all the terms, conditions and specifications of the Cooperative Purchasing Agreement. Such terms, conditions and specifications are specifically incorporated into and are an enforceable part of this Agreement.
3. Compensation.
 - A. City shall pay Contractor compensation at the same rate and on the same schedule as provided in the Cooperative Purchasing Agreement, which is attached hereto as Exhibit C.
 - B. The total purchase price for the supplies and/or services purchased under this Agreement shall not exceed Two hundred & fifty thousand dollars (\$250,000) for the entire term of the Agreement (initial term plus any renewals).
4. Cancellation. This Agreement may be cancelled pursuant to A.R.S. § 38-511.
5. Non-discrimination. Contractor must not discriminate against any employee or applicant for employment on the basis of race, color, religion, sex, national origin, age, marital status, sexual orientation, gender identity or expression, genetic characteristics, familial status, U.S. military veteran status or any disability. Contractor will require any Sub-contractor to be bound to the same requirements as stated within this section. Contractor, and on behalf of any subcontractors, warrants compliance with this section.
6. Insurance Certificate. A certificate of insurance applying to this Agreement must be provided to the City prior to the Effective Date.
7. E-verify. Contractor complies with A.R.S. § 23-214 and agrees to comply with the requirements of A.R.S. § 41-4401.
8. No Boycott of Israel. To the extent A.R.S § 35-393 through § 35-393.03 are applicable, the parties hereby certify that they are not currently engaged in, and agree for the duration of the Agreement to not engage in, a boycott of goods or services from Israel, as that term is defined in A.R.S § 35-393.
9. Attestation of PCI Compliance. When applicable, the Contractor will provide the City annually with a Payment Card Industry Data Security Standard (PCI DSS) attestation of compliance certificate signed by an officer of Contractor with oversight responsibility.
10. Notices. Any notices that must be provided under this Agreement shall be sent to the Parties' respective authorized representatives at the address listed below:

City of Glendale
c/o Julie Ossege
7070 W. Northern Ave.
Glendale, AZ
And

Siemens Industry, Inc.
Kenneth Charles
8871 W Silverwood Ct.
Franklin, WI 53132

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date and year set forth above.

"City"

City of Glendale, an Arizona
municipal corporation

By: _____

Kevin R. Phelps
City Manager

"Contractor"

Siemens Industry, Inc.,
a Delaware Coporation

By: _____

Name: Mike J. Butchart
Title: General Manager

ATTEST:

Julie K. Bower (SEAL)
City Clerk

APPROVED AS TO FORM:

Michael D. Bailey
City Attorney

**LINKING AGREEMENT
BETWEEN
THE CITY OF GLENDALE, ARIZONA
AND
SIEMENS INDUSTRY, INC.**

EXHIBIT A
SIEMENS NONCONTACT LEVEL METERS
CITY OF PHOENIX REQUIREMENTS CONTRACT NO. 152367,

CONTRACT NO 152367-1 AMENDMENT NO. 1
CONTRACT NO 152367-2 AMENDMENT NO. 2
CONTRACT NO 152367-3 AMENDMENT NO. 3

152367--0



**CITY OF PHOENIX
Water Services Department
Management Services Division
200 W. Washington Street
9th floor
Phoenix, AZ 85003**

**REQUEST FOR AGREEMENT
RFA 1920-WWT-197 (AM)**

SIEMENS NONCONTACT LEVEL METERS - REQUIREMENTS CONTRACT

**PROCUREMENT OFFICER
Audrey Mims
602-256-3343
audrey.mims@phoenix.gov**



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SECTION I – INSTRUCTIONS

CITY OF PHOENIX

1. STATEMENT OF NEED AND CONTRACT TERM:

This is a contract for Siemens Noncontact Level Meters and Replacement Parts for the Water Services Department's Water Treatment Plants, Wastewater Treatment Plants, and other locations for a six-year period, commencing on or about July 1, 2020, in accordance with the specification attached hereto as Exhibit A - Siemens Product Specifications and provisions contained herein.

2. BUSINESS IN ARIZONA:

The City will not enter contracts with any company not granted authority to transact business, or not in good standing, in the state of Arizona by the Arizona Corporation Commission, unless the company asserts a statutory exception prior to entering a contract with the City.

3. LICENSES:

If required by law for the operation of the business or work related to this Contract, Contractor must possess all valid certifications and/or licenses as required by federal, state or local laws at the time of submittal.



1. DEFINITION OF KEY WORDS USED IN THE SOLICITATION:

Shall, Will, Must:	Indicates a mandatory requirement. Failure to meet these mandatory requirements may result in the rejection of Offer as non-responsive.
Should:	Indicates something that is recommended but not mandatory. If the Contractor fails to provide recommended information, the City may, at its sole option, ask the Contractor to provide the information or evaluate the offer without the information.
May:	Indicates something that is not mandatory but permissible.

For purposes of this solicitation, the following definitions will apply:

"A.R.S."	Arizona Revised Statute
"Buyer" or "Procurement Officer"	City of Phoenix staff person responsible for the solicitation. The City employee or employees who have specifically been designated to act as a contact person or persons to the Contractor, and responsible for monitoring and overseeing the Contractor's performance under this contract.
"City"	The City of Phoenix
"Contractor"	The individual, partnership, or corporation who, as a result of the competitive process, is awarded a contract by the City of Phoenix.
"Contract" or "Agreement"	The legal agreement executed between the City of Phoenix, AZ and the Contractor.
"Days"	Means calendar days unless otherwise specified.
"Water Services Director"	The contracting authority for the City of Phoenix, AZ, authorized to sign contracts and amendments thereto on behalf of the City of Phoenix, AZ.
"Employer"	Any individual or type of organization that transacts business in this state, that has a license issued by an



agency in this state and employs one or more employees in this state. Employer includes this state, any political subdivision of this state and self-employed persons. In the case of an independent contractor, employer means the independent contractor and does not mean the person or organization that uses contract labor. (A.R.S. 23-211).

“Offer”

Means a response from a supplier, contractor or service provider to a solicitation request that, if awarded, binds the supplier, contractor or service provider to perform in accordance with the contract. Same as bid, proposal, quotation or tender.

“Offeror”

Any Vendor, Seller or Supplier submitting a competitive offer in response to a solicitation from the City. Same as Bidder or Proposer.

“Solicitation”

Means an Invitation for Bid (IFB), Request for Proposal (RFP), Request for Quotations (RFQ), Request for Qualifications (RFQu) and request for sealed bids, or any other type of formal procurement which the City makes public through advertising, mailings, or some other method of communication. It is the process by which the City seeks information, proposals, bids or quotes from suppliers.

“Suppliers”

Firms, entities or individuals furnishing goods or services to the City.

“Vendor or Seller”

A seller of goods or services.

2. CONTRACT INTERPRETATION:

2.1. APPLICABLE LAW: This Contract will be governed by the law of the State of Arizona, and suits pertaining to this Contract will be brought only in Federal or State courts in Maricopa County, State of Arizona.

2.2. CONTRACT ORDER OF PRECEDENCE: In the event of a conflict in the provisions of the Contract, as accepted by the City and as they may be amended, the following will prevail in the order set forth below:

- 2.2.1. Special terms and conditions
- 2.2.2. Standard terms and conditions



- 2.2.3. Amendments
- 2.2.4. Statement or scope of work
- 2.2.5. Siemens Product Specifications
- 2.2.6. Attachments
- 2.2.7. Exhibits
- 2.2.8. Instructions to Contractors
- 2.2.9. Other documents referenced or included in the Solicitation

2.3. ORGANIZATION – EMPLOYMENT DISCLAIMER: The Agreement resulting hereunder is not intended to constitute, create, give rise to or otherwise recognize a joint venture agreement or relationship, partnership or formal business organization of any kind, and the rights and obligations of the parties will be only those expressly set forth in the agreement. The parties agree that no persons supplied by the Contractor in the performance of Contractor's obligations under the agreement are considered to be City's employees and that no rights of City civil service, retirement or personnel rules accrue to such persons. The Contractor will have total responsibility for all salaries, wage bonuses, retirement, withholdings, workmen's compensation, occupational disease compensation, unemployment compensation, other employee benefits and all taxes and premiums appurtenant thereto concerning such persons and will save and hold the City harmless with respect thereto.

2.4. SEVERABILITY: The provisions of this Contract are severable to the extent that any provision or application held to be invalid will not affect any other provision or application of the contract which may remain in effect without the invalid provision or application.

2.5. NON-WAIVER OF LIABILITY: The City of Phoenix as a public entity supported by tax monies, in execution of its public trust, cannot agree to waive any lawful or legitimate right to recover monies lawfully due it. Therefore, any Contractor agrees that it will not insist upon or demand any statement whereby the City agrees to limit in advance or waive any right the City might have to recover actual lawful damages in any court of law under applicable Arizona law.

2.6. PAROL EVIDENCE: This Agreement is intended by the parties as a final expression of their agreement and is intended also as a complete and exclusive statement of the terms of this agreement. No course of prior dealings between the parties and no usage in the trade will be relevant to supplement or explain any term used in this Contract. Acceptance or acquiescence in a course of performance rendered under this contract will not be relevant to determine the meaning of this Contract even though the accepting or acquiescing party has knowledge of the nature of the performance and opportunity to object.



3. CONTRACT ADMINISTRATION AND OPERATION:

3.1. RECORDS: All books, accounts, reports, files and other records relating to the contract will be subject at all reasonable times to inspection and audit by the City for five years after completion of the contract. Such records will be produced at a City of Phoenix office as designated by the City. Confidentiality will be maintained, and City will not violate any proprietary or other confidentiality agreements vendor has in place.

3.2. DISCRIMINATION PROHIBITED: Contractor agrees to abide by the provisions of the Phoenix City Code Chapter 18, Article V as amended.

Any contractor, in performing under this contract, will not discriminate against any worker, employee or applicant, or any member of the public, because of race, color, religion, sex, national origin, age or disability nor otherwise commit an unfair employment practice. The supplier and/or lessee will take action to ensure that applicants are employed, and employees are dealt with during employment without regard to their race, color, religion, sex, or national origin, age or disability and adhere to a policy to pay equal compensation to men and women who perform jobs that require substantially equal skill, effort and responsibility, and that are performed within the same establishment under similar working conditions. Such action will include but not be limited to the following: Employment, promotion, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training; including apprenticeship. The supplier further agrees that this clause will be incorporated in all subcontracts with all labor organizations furnishing skilled, unskilled and union labor, or who may perform any such labor or services in connection with this contract. Contractor further agrees that this clause will be incorporated in all subcontracts, job-contractor agreements or subleases of this agreement entered into by supplier/lessee.

3.3. EQUAL EMPLOYMENT OPPORTUNITY AND PAY: In order to do business with the City, Contractor must comply with Phoenix City Code, 1969, Chapter 18, Article V, as amended, Equal Employment Opportunity Requirements. Contractor will direct any questions in regard to these requirements to the Equal Opportunity Department, (602) 262-6790.

For a Contractor with 35 employees or fewer: Contractor in performing under this Agreement shall not discriminate against any worker, employee or applicant, or any member of the public, because of race, color, religion, sex, national origin, age, or disability, nor otherwise commit an unfair employment practice. The Contractor will ensure that applicants are employed, and employees are dealt with during employment without regard to their race, color, religion, sex, national origin, age, or disability. Such action shall include but not be limited to the following: employment, promotion, demotion or



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transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training; including apprenticeship. The Contractor further agrees that this clause will be incorporated in all subcontracts related to this Agreement that involve furnishing skilled, unskilled and union labor, or who may perform any such labor or services in connection with this Agreement. Contractor further agrees that this clause will be incorporated in all subcontracts, Contractor agreements or subleases of this agreement entered into by supplier/lessee.

For a Contractor with more than 35 employees: Contractor in performing under this Agreement shall not discriminate against any worker, employee or applicant, or any member of the public, because of race, color, religion, sex, national origin, age, or disability, nor otherwise commit an unfair employment practice. The Contractor will ensure that applicants are employed, and employees are dealt with during employment without regard to their race, color, religion, sex, national origin, age, or disability, and shall adhere to a policy to pay equal compensation to men and women who perform jobs that require substantially equal skill, effort, and responsibility, and that are performed within the same establishment under similar working conditions. Such action shall include but not be limited to the following: employment, promotion, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training; including apprenticeship. The Contractor further agrees that this clause will be incorporated in all subcontracts with all labor organizations furnishing skilled, unskilled and union labor, or who may perform any such labor or services in connection with this contract. Contractor further agrees that this clause will be incorporated in all subcontracts, job-Contractor agreements or subleases of this Agreement entered into by supplier/lessee. The Contractor further agrees not to discriminate against any worker, employee or applicant, or any member of the public, because of sexual orientation or gender identity or expression and shall ensure that applicants are employed, and employees are dealt with during employment without regard to their sexual orientation or gender identity or expression.

3.4.3 Documentation: Suppliers and lessees may be required to provide additional documentation to the Equal Opportunity Department affirming that a nondiscriminatory policy is being utilized.

3.4.4 Monitoring: The Equal Opportunity Department shall monitor the employment policies and practices of suppliers and lessees subject to this article as deemed necessary. The Equal Opportunity Department is authorized to conduct on-site compliance reviews of selected firms, which may include an audit of personnel and payroll records, if necessary.



3.4. LEGAL WORKER REQUIREMENTS: The City of Phoenix is prohibited by A.R.S. § 41-4401 from awarding a contract to any Contractor who fails, or whose subcontractors fail, to comply with A.R.S. § 23-214(A). Therefore, Contractor agrees that:

- 3.4.1. Contractor and each subcontractor it uses warrants their compliance with all federal immigration laws and regulations that relate to their employees and their compliance with A.R.S. § 23-214, subsection A.
- 3.4.2. A breach of a warranty under paragraph 3.4.1 will be deemed a material breach of the contract that is subject to penalties up to and including termination of the contract.
- 3.4.3. The City of Phoenix retains the legal right to inspect the papers of any Contractor or subcontractor employee who works on the contract to ensure that the Contractor or subcontractor is complying with the warranty under paragraph 3.4.1.

3.5. HEALTH, ENVIRONMENTAL AND SAFETY REQUIREMENTS: The Contractor's products, services and facilities will be in full compliance with all applicable Federal, State and local health, environmental and safety laws, regulations, standards, codes and ordinances, regardless of whether or not they are referred to by the City.

At the request of City representatives, the Contractor will provide the City:

- 3.5.1. Environmental, safety and health regulatory compliance documents (written safety programs, training records, permits, etc.) applicable to services provided by the Contractor in this contract
- 3.5.2. A list of all federal, state, or local (EPA, OSHA, Maricopa County, etc.) citations or notice of violations issued against their firm or their subcontractors including dates, reasons, dispositions and resolutions.

The City will have the right, but not the obligation to inspect the facilities, transportation vehicles or vessels, containers and disposal facilities provided by the Contractor or subcontractor. The City will also have the right to inspect operations conducted by the Contractor or subcontractor in the performance of this agreement. The City further reserves the right to make unannounced inspections of the Contractor's facilities (during normal business hours).

3.6. COMPLIANCE WITH LAWS: Contractor agrees to fully observe and comply with all applicable Federal, State and local laws, regulations, standards, codes and ordinances when performing under this Contract regardless of whether they are being referred to by the City. Contractor agrees to permit City inspection of Contractor's business records, including personnel records to verify any such compliance.

Because the contractor will be acting as an independent contractor, the City assumes no responsibility for the Contractor's acts.



3.7. LAWFUL PRESENCE REQUIREMENT: Pursuant to A.R.S. §§ 1-501 and -502, the City of Phoenix is prohibited from awarding a contract to any natural person who cannot establish that he or she is lawfully present in the United States. In order to establish lawful presence, this person must produce qualifying identification and sign a City-provided affidavit affirming that the identification provided is genuine. This requirement will be imposed at the time of contract award. In the event the prevailing responder is unable to satisfy this requirement, the City will offer the award to the next-highest scoring responder. The law does not apply to fictitious entities such as corporations, partnerships and limited liability companies

3.8. CONTINUATION DURING DISPUTES: Contractor agrees that notwithstanding the existence of any dispute between the parties, insofar as is possible, under the terms of the contract, the Contractor will continue to perform the obligations required of Contractor during the continuation of any such dispute unless enjoined or prohibited by an Arizona Court of competent jurisdiction.

3.9. EMERGENCY PURCHASES: The City reserves the right to purchase from other sources those items which are required on an emergency basis and cannot be supplied immediately from stock by the Contractor.

4. COSTS AND PAYMENTS:

4.1. GENERAL: Any prompt payment terms offered must be clearly noted by the Contractor on all invoices submitted to the City for the payment of goods or services received. The City will make every effort to process payment for the purchase of material or services within thirty to forty-five calendar days after receipt of a correct invoice, unless a good faith dispute exists to any obligation to pay all or a portion of the account. Payment terms are specified in the Offer.

4.2. PAYMENT DEDUCTION OFFSET PROVISION: Contractor acknowledges that the City Charter requires that no payment be made to any Contractor as long as there is an outstanding obligation due to the City. Contractor agrees that any obligation it owes to the City will be offset against any payment due to the Contractor from the City.

4.3. LATE SUBMISSION OF CLAIM BY CONTRACTOR: The City will not honor any invoices or claims which are tendered one year after the last item of the account accrued.

4.4. DISCOUNTS: Payment discounts will be computed from the date of receiving acceptable products, materials and/or services or correct invoice, whichever is later to the date payment is mailed.



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4.5. NO ADVANCE PAYMENTS: Advance payments are not authorized. Payment will be made only for actual services or commodities that have been received, unless addressed specifically in the Scope of work for subscription services.

4.6. FUND APPROPRIATION CONTINGENCY: The Vendor recognizes that any agreement entered into will commence upon the day first provided and continue in full force and effect until termination in accordance with its provisions. The Vendor and the City herein recognize that the continuation of any contract after the close of any given fiscal year of the City, which ends on June 30th of each year, will be subject to the approval of the budget of the City providing for or covering such contract item as an expenditure therein. The City does not represent that said budget item will be actually adopted, said determination being the determination of the City Council at the time of the adoption of the budget.

4.7. MAXIMUM PRICES: The City will not be invoiced at prices higher than those stated in any contract resulting from this Offer. Contractor certifies, by signing this Offer that the prices offered are no higher than the lowest price the Contractor charges other buyers for similar quantities under similar conditions, as applicable and shown by quotes for like services and goods. Contractor further agrees that any reductions in the price of the goods or services covered by this Offer and occurring after award will apply to the undelivered balance. The Contractor will promptly notify the City of such price reductions.

4.8. F.O.B. POINT: All prices are to be quoted F.O.B. delivered, unless specified elsewhere in this solicitation.

5. CONTRACT CHANGES:

5.1. CONTRACT AMENDMENTS: Contracts will be modified only by a written contract amendment signed persons duly authorized to enter into contracts on behalf of the Contractor. No verbal agreement or conversation with any officer, agent, or employee of the City either before or after execution of the contract, will affect or modify any of the terms or obligations contained or to be contained in the contract. Any such verbal agreements or conversation shall be considered as unofficial information and in no way binding upon the City or the Contractor. All agreements shall be in writing and contract changes shall be by written amendment signed by both parties.

5.2. ASSIGNMENT - DELEGATION: No right or interest in this contract nor monies due hereunder will be assigned in whole or in part without written permission of the City, and no delegation of any duty of Contractor will be made without prior written permission of the City, which may be withheld for good cause. Any assignment or delegation made in violation of this section will be void.

5.3. NON-EXCLUSIVE CONTRACT: Any contract resulting from this solicitation will be awarded with the understanding and agreement that it is for the sole convenience



of the City. The City reserves the right to obtain like goods or services from another source when necessary.

6. RISK OF LOSS AND LIABILITY:

6.1. TITLE AND RISK OF LOSS: The title and risk of loss of material or service will not pass to the City until the City actually receives the material or service at the point of delivery; and such loss, injury, or destruction will not release seller from any obligation hereunder.

6.2. ACCEPTANCE: All material or service is subject to final inspection and acceptance by the City within 30 days after delivery. Material or service failing to conform to the Siemens Product Specifications of this contract will be held at Contractor's risk and may be returned to the Contractor. If so returned, all costs are the responsibility of the Contractor. Noncompliance will conform to the cancellation clause set forth in this document.

6.3. FORCE MAJEURE: Except for payment of sums due, neither party will be liable to the other nor deemed in default under this contract if and to the extent that such party's performance of this contract is prevented by reason of force majeure. The term "force majeure" means an occurrence that is beyond the control of the party affected and occurs without its fault or negligence. Force majeure will not include late performance by a subcontractor unless the delay arises out of a force majeure occurrence in accordance with this force majeure term and condition.

If either party is delayed at any time in the progress of the work by force majeure, the delayed party will notify the other party in writing of such delay, as soon as is practical, of the commencement thereof and will specify the causes of such delay in such notice. Such notice will be hand-delivered or mailed certified-return receipt and will make a specific reference to this provision, thereby invoking its provisions. The delayed party will cause such delay to cease as soon as practicable and will notify the other party in writing when it has done so. The time of completion will be extended by contract modification for a period of time equal to the time that results or effects of such delay prevent the delayed party from performing in accordance with this contract.

6.4. LOSS OF MATERIALS: The City does not assume any responsibility, at any time, for the protection of or for loss of materials, from the time that the contract operations have commenced until the final acceptance of the work by the project manager.

6.5. CONTRACT PERFORMANCE: Contractor will furnish all necessary labor, tools, equipment, and supplies to perform the required services at the City facilities designated, unless otherwise specifically addressed in the scope, or elsewhere in this Agreement. The City's authorized representative will decide all questions which may arise as to the quality and acceptability of any work performed under



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the contract. If, in the opinion of the City's authorized representative, performance becomes unsatisfactory, the City will notify the Contractor.

- 6.6. DAMAGE TO CITY PROPERTY:** Contractor will perform all work so that no damage to the building or grounds results. Contractor will repair any damage caused to the satisfaction of the City at no cost to the City.

Contractor will take care to avoid damage to adjacent finished materials that are to remain. If finished materials are damaged, Contractor will repair and finish to match existing material as approved by the City at Contractor's expense.

7. CITY'S CONTRACTUAL RIGHTS:

- 7.1.** Whenever one party to this contract in good faith has reason to question the other party's intent to perform, the former party may demand that the other party give a written assurance of this intent to perform. In the event that a demand is made and no written assurance is given within five days, the demanding party may treat this failure as an anticipatory repudiation of this contract.

- 7.2. NON-EXCLUSIVE REMEDIES:** The rights and remedies of the City under this Contract are non-exclusive.

- 7.3. DEFAULT IN ONE INSTALLMENT TO CONSTITUTE BREACH:** Each installment or lot of the agreement is dependent on every other installment or lot and a delivery of non-conforming goods or a default of any nature under one installment or lot will impair the value of the whole agreement and constitutes a total breach of the agreement as a whole.

- 7.4. ON TIME DELIVERY:** Because the City is providing services which involve health, safety and welfare of the general public, delivery must be made in accordance with the delivery schedule promised by the Contractor.

- 7.5. DEFAULT:** In case of default by the Contractor, the City may, by written notice, cancel this contract and repurchase from another source and may recover the excess costs by (1) deduction from an unpaid balance due; (2) collection against the bid and/or performance bond, or (3) a combination of the aforementioned remedies or other remedies as provided by law.

- 7.6. COVENANT AGAINST CONTINGENT FEES:** Seller warrants that no person or selling agent has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employers or bona fide established commercial or selling agencies maintained by the seller for the purpose of securing business. For breach or violation of this warranty, the City will have the right to annul the contract without liability or in its discretion to deduct from the contract price a



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consideration, or otherwise recover the full amount of such commission, brokerage or contingent fee.

7.7. WORK PRODUCT, EQUIPMENT AND MATERIALS: All work product, equipment, or materials created or purchased under this contract belongs to the City and must be delivered to the City at City's request upon termination of this contract. Contractor agrees to assign to City all rights and interests Contractor may have in materials prepared under this contract that are "works for hire" within the meaning of the copyright laws of the United States, including any right to derivative use of the material.

8. CONTRACT TERMINATION:

8.1. GRATUITIES: The City may, by written notice to the Contractor, cancel this contract if it is found that gratuities, in the form of entertainment, gifts or otherwise, were offered or given by the Contractor or any agent or representative of the Contractor, to any officer or employee of the City making any determinations with respect to the performing of such contract. In the event this contract is canceled by the City pursuant to this provision, the City will be entitled, in addition to any other rights and remedies, to recover or withhold from the Contractor the amount of the gratuity.

8.2. CONDITIONS AND CAUSES FOR TERMINATION:

8.2.1 This contract may be terminated at any time by mutual written consent, or by the City, with or without cause, upon giving thirty-day written notice to Contractor. The City at its convenience, by written notice, may terminate this contract, in whole or in part. If this contract is terminated, the City will be liable only for payment under the payment provisions of this contract for services rendered and accepted material received by the City before the effective date of termination. Title to all materials, work-in-process and completed but undeliverable goods, will pass to the City after costs are claimed and allowed. The Seller will submit detailed cost claims in an acceptable manner and will permit the City to examine such books and records as may be necessary in order to verify the reasonableness of any claims.

8.2.2 The City reserves the right to cancel the whole or any part of this contract due to failure of Contractor to carry out any material term, promise, or condition of the contract. The City will issue a written notice of default to Contractor for acting or failing to act as in any of the following:

- In the opinion of the City, Contractor provides personnel who do not meet the requirements of the contract;
- In the opinion of the City, Contractor fails to perform adequately the stipulations, conditions or services/Siemens Product Specifications required in this contract;



- In the opinion of the City, Contractor attempts to impose on the City personnel or materials, products or workmanship, which is of an unacceptable quality.
- Contractor fails to furnish the required service and/or product within the time stipulated in the contract;
- In the opinion of the City, Contractor fails to make progress in the performance of the requirements of the contract and/or give the City a positive indication that Contractor will not or cannot perform to the requirements of the contract.

8.3. CONTRACT CANCELLATION: All parties acknowledge that this contract is subject to cancellation by the City of Phoenix pursuant to the provision of Section 38-511, Arizona Revised Statutes.

9. STATE AND LOCAL TRANSACTION PRIVILEGE TAXES:

In accordance with applicable state and local law, transaction privilege taxes may be applicable to this transaction. The state and local transaction privilege (sales) tax burden is on the person who is conducting business in Arizona and the City of Phoenix. The legal liability to remit the tax is on the person conducting business in Arizona. Any failure by the Contractor to collect applicable taxes from the City shall not relieve the Contractor from its obligation to remit taxes. It is the responsibility of the prospective Offeror to determine any applicable taxes. The City will look at the price or offer submitted and will not deduct, add or alter pricing based on speculation or application of any taxes, nor will the City provide advice or guidance. If you have questions regarding your tax liability, please seek advice from a tax professional prior to submitting your Offer. You may also find information at Phoenix Tax Division or State of AZ Department of Revenue. Once your Offer is submitted, the Offer is valid for the time specified in this Solicitation, regardless of mistake or omission of tax liability. If the City finds over payment of a project due to tax consideration that was not due, the Contractor will be liable to the City for that amount, and by contracting with the City agrees to remit any overpayments back to the City for miscalculations on taxes included in an Offer price.

10. TAX INDEMNIFICATION:

Contractor shall, and require the same of all subcontractors, pay all federal, state and local taxes applicable to its operation and any persons employed by the Contractor. Contractor shall, and require the same of all subcontractors, hold the City harmless from any responsibility for taxes, damages and interest, if applicable, contributions required under federal, and/or state and local laws and regulations and any other costs including transaction privilege taxes, unemployment compensation insurance, Social Security and Worker's Compensation.

**11. TAX RESPONSIBILITY QUALIFICATION:**

Contractor may be required to establish, to the satisfaction of City, that any and all fees and taxes due to the City or the State of Arizona for any License or Transaction Privilege taxes, Use taxes or similar excise taxes, are currently paid (except for matters under legal protest). Contractor agrees to a waiver of the confidentiality provisions contained in the City Finance Code and any similar confidentiality provisions contained in Arizona statutes relative to State Transaction Privilege Taxes or Use Taxes. Contractor agrees to provide written authorization to the City Finance Department and to the Arizona State Department of Revenue to release tax information relative to Arizona Transaction Privilege Taxes or Arizona Use Taxes in order to assist the Department in evaluating Contractor's qualifications for and compliance with contract for duration of the term of contract.

12. NO ISRAEL BOYCOTT:

By entering into this contract, the Contractor certifies that they are not currently engaged in and agrees for the duration of the contract, to not engage in a boycott of goods or services from Israel.



SECTION III – SPECIAL TERMS & CONDITIONS

CITY OF PHOENIX

1. FREE ON BOARD (FOB):

Prices quoted shall be FOB destination and delivered to the following locations:

Val Vista Water Treatment Plant (WTP)
3200 E. McDowell Rd
Mesa, AZ 85213

24th St. WTP
6202 N. 24th St.
Phoenix, AZ 85016

Union Hills WTP
2001 E. Deer Valley Rd
Phoenix, AZ 85024

52nd St. Remote Facilities
5204 E. Thomas Rd.
Phoenix, AZ 85018

Cave Creek Remote Facilities
21642 N. 20th St.
Phoenix, AZ 85024

91st Ave. WWTP
5616 S. 91st Ave.
Tolleson, AZ 85353

23rd Ave. Wastewater Treatment Plant (WWTP)
2470 S. 22nd Ave.
Phoenix, AZ 85009

2. PRICE:

All prices submitted shall be firm and fixed for the initial one-year contract period. Thereafter, price adjustments will be considered annually provided the adjustments are submitted in writing with thirty days' advance notice. Requests shall be accompanied with written documentation from the manufacturer and/or published indexes confirming the price increase. The City will be the sole judge in determining the allowable increase amount. Price adjustment requests shall be sent to the procurement officer at the address on the front page of the solicitation, referencing the solicitation #. Price increases agreed to by any staff other than Deputy Finance Director or Department Director are invalid. The contractor acknowledges and agrees that it will repay all monies paid as a result of a requested price increase unless the price increase was specifically approved in writing by the Deputy Finance Director or Department Director.

3. METHOD OF ORDERING (PURCHASE ORDERS):

Issuance of written purchase order(s) by the Procurement Division. Contractor shall deliver items and/or services only upon receipt of a written purchase order issued by the Procurement Division. All contractor invoices and packing/delivery tickets must include the City of Phoenix purchase order number.



SECTION III – SPECIAL TERMS & CONDITIONS

CITY OF PHOENIX

4. METHOD OF INVOICING: (submitted to invoices@phoenix.gov)

Invoice must include the following:

- City purchase order number, requisition number, or contract agreement number.
- Items listed individually by the written description and part number.
- Unit price extended and totaled.
- Quantity ordered, back ordered, and shipped.
- Applicable tax.
- Invoice number and date.
- Requesting department name and "ship-to" address.
- Payment terms.
- FOB terms.

5. METHOD OF PAYMENT:

Payment to be made from Contractor's invoice, and a copy of the signed delivery invoices submitted to cover items received and accepted during the billing period. Invoices must contain the agreement number or Offer number under which the contract is awarded.

6. COOPERATIVE AGREEMENT:

In addition to the City and with approval of the Contractor, this contract may be extended for use by other municipalities and government agencies of the State of Arizona.

A current listing of eligible entities may be found at [S.A.V.E. | Maricopa County, AZ](#) and then click on Contracts, "S.A.V.E." listing and "ICPA". Any such usage by other entities must be in accordance with the ordinance, charter and/or procurement rules and regulations of the respective political entity.

Orders placed by other agencies and payment thereof will be the sole responsibility of that agency. The City shall not be responsible for any disputes arising out of transactions made by other public entities who utilize this Agreement.

7. POST AWARD CONFERENCE:

A post award conference will be held by the Project Manager prior to commencement of any work on the project. The purpose of this conference is to discuss critical elements of the work schedule and operational problems and procedures.

8. SUSPENSIONS OF WORK:

Finance Procurement Division and the project manager reserve the right to suspend **work** wholly or in part if deemed necessary for the best interest of the City. This suspension will



SECTION III – SPECIAL TERMS & CONDITIONS

CITY OF PHOENIX

be without compensation to the Contractor, other than to adjust the contract completion/delivery requirements.

9. PERFORMANCE INTERFERENCE:

Contractor shall notify the City's department contact immediately of any occurrence and/or condition that interferes with the full performance of the contract and confirm it in writing within 24 hours.

Department Contact: Instrumentation & Control Supervisor
Phone: (602) 495-7127

10. COMMUNICATION IN ENGLISH:

It is mandatory that the Contractor's lead person assigned to any City's facility be able to speak, read and write in English in order to communicate at the site contact.

11. AUTHORIZED CHANGES:

The City reserves the right at any time to make changes in any one or more of the following: (a) products requested; (b) methods of shipment or packing; (c) place of delivery; (d) time of delivery; and/or (e) quantities. If the change causes an increase or decrease in the cost of or the time required for performance, an equitable adjustment will be made in the price or delivery schedule, or both, as appropriate. Any claim for adjustment will be deemed waived unless asserted in writing within thirty days from the receipt of the change. Changes, including price increases or extensions of delivery time, will not be binding on either party unless agreed in writing and approved by the Deputy Finance Director or Department Director for the City and an appropriate representative for the Contractor prior to the institution of the change.

12. PRODUCT DISCONTINUANCE/NEW PRODUCT AVAILABILITY:

The City may award contracts for particular products and/or models of equipment. In the event a product or model is discontinued by the manufacturer, the City, at its sole discretion, may allow the Contractor to provide a substitute for the discontinued item. Contractor shall request permission to substitute a new product or model and provide the following:

- A formal announcement from the manufacturer that the product or model has been discontinued.
- Documentation from the manufacturer that names the replacement product or model.
- Documentation that provides clear and convincing evidence that the replacement meets or exceeds the Siemens Product Specifications.



SECTION III – SPECIAL TERMS & CONDITIONS

CITY OF PHOENIX

- Documentation that provides clear and convincing evidence that the replacement will be compatible with all the functions or uses of the discontinued product or model.
- Documentation from the manufacturer confirming the price for the replacement item.
- The Department Director will be the sole judge in determining the allowable substitute, new product or model change for discontinued item.

13. INDUSTRY STANDARDS:

It is intended that the manufacturer in the selection of components will use material and design practices that are the best available in the industry for the type of operating conditions to which the item(s) will be subjected. Component parts shall be selected to give maximum performance, service life and safety and not merely meet the minimum requirements of the Siemens Product Specifications. All parts, equipment and accessories shall conform in strength, quality of material and workmanship to recognized industry standards.

The City reserves the right to waive minor variation(s) if in the opinion of the Water Services Department Director the basic unit meets the general intent of the Siemens Product Specifications.

The complete equipment/material Offer shall not include a major component that is of a prototype nature or has not been in production for a sufficient length of time to demonstrate reliability.

If the Siemens Product Specifications stated herein for components items do not comply with legal requirements, the Contractor(s) shall so notify the City prior to the Offer opening date.

14. MANUALS:

All complete operating and parts manuals are to be furnished upon delivery at no additional cost to the City. Manuals and other materials shall show all equipment specifications and mechanical troubleshooting in electronic media.

15. INSPECTION AND ACCEPTANCE:

Each product delivered shall be subject to a complete inspection by the Water Services Department prior to acceptance. Inspection criteria shall include, but not be limited to, conformity to the Siemens Product Specifications, mechanical integrity, quality, workmanship and materials. Ten business days will be allowed for this process. If delivered items are unacceptable and returned to the Contractor prior to acceptance, an additional five business days will be allowed for inspection when subsequent delivery



SECTION III – SPECIAL TERMS & CONDITIONS

CITY OF PHOENIX

occurs. It shall be the Contractor's responsibility to pick up unacceptable products, correct the deficiencies and return the product following the corrections.

16. NEW EQUIPMENT:

All items offered shall be new equipment supplied from the manufacturer. Submissions for remanufactured equipment will be considered as non-responsive and rejected.

17. WARRANTY:

(a) Warranties. Contractor warrants that: (i) it will perform all services provided by Contractor hereunder (the "Services") in a professional and workmanlike manner; (ii) each product provided by Contractor hereunder (a "Product") is free from defects in material and workmanship; (iii) each Product materially conforms to Exhibit A - Siemens Product Specifications; (iv) each product is fit for the ordinary purposes for which such goods are used as described in the Siemens Product Specifications; and (v) at the time of delivery, Contractor has title to each Product free and clear of liens and encumbrances (the "Warranties"). The Warranties do not apply to software furnished by Contractor. The sole and exclusive warranties for any software are set forth in the applicable Software License/Warranty Addendum.

(b) Remedies. If the Services or Product fail to meet the warranty standards set forth in Article 17(a) within the applicable Warranty period defined in Article 17(c), and the City reports such non-conformance to Contractor during the above-mentioned Warranty period, Contractor shall at its own expense: (i) for Services, re-perform the relevant Services or, in Contractor's sole discretion, refund the City the pro rata portion of the fees paid to Contractor under this Agreement allocable to the nonconforming Services; and (ii) for Product, at Contractor's discretion, repair or replace the Product, or its non-conforming parts, within a reasonable time period, or refund of all or part of the purchase price. The warranty on repaired or replaced Product, Services or parts is limited to the remainder of the original Warranty period, except that when new Products or new parts are used to repair or replace a Product and such repaired or replaced part or Product is immediately put back into service following the repair/replacement, the Warranty period on the new parts or Product will be extended to twelve (12) months from the initial operation of the new part or Product.

Unless Contractor agrees otherwise in writing, the City will be responsible for any costs associated with: (i) removal, disassembly, replacement, installation, or reinstallation of any equipment, materials or structures to permit Siemens to perform its warranty obligations; (ii) transportation to the Siemens factory or repair facility; and (iii) damage to equipment components or parts resulting in whole or in part from non-compliance by the City with Article 17(d) or from their deteriorated condition as a result of normal wear and tear. All exchanged Products replaced under this Warranty will become the property of Contractor.



SECTION III – SPECIAL TERMS & CONDITIONS

CITY OF PHOENIX

(c) **Warranty Period.** The City must provide written notice of any claims for breach of the Warranties by: (i) for Services, within three (3) months from completion of the Services; and (ii) for Product, the earlier of twelve (12) months from initial operation of the Product or twenty-four (24) months from shipment. Additionally, absent written notice within the applicable Warranty period, any use or possession of the Product or Services after expiration of the applicable Warranty period is conclusive evidence that the applicable Warranties have been satisfied.

(d) **Conditions to the Warranties.** The Warranties are conditioned on: (i) no repairs, modifications or alterations being made to the Products or Services other than by the Contractor or its authorized representatives; (ii) the City handling, using, storing, installing, operating and maintaining the Products and Services in compliance with any parameters or instructions in the Siemens Product Specifications; (iii) the City discontinuing use of the Product after it has, or should have had knowledge of any defect in the Product; (iv) the City providing Contractor with reasonable access, as requested by Contractor, to the Products and Services as necessary to permit Siemens to perform any remediation; (v) the City providing prompt written notice of any warranty claims within the Warranty Period; (vi) at Contractor's discretion, the City either removing and shipping the Product or nonconforming part thereof to Contractor, at City's expense, or granting Contractor reasonable access to the Products to assess the warranty claims; (vii) Products not having been subjected to accident (including force majeure), alteration, abuse or misuse; and (viii) the City not being in default of any payment obligation. The City shall provide, without cost to Siemens, access to the nonconformity by disassembling, removing, replacing and reinstalling any Products, materials or structures to the extent necessary to permit Siemens to perform its warranty obligations.

(f) THE WARRANTIES IN THIS ARTICLE 17 ARE CONTRACTOR'S SOLE AND EXCLUSIVE WARRANTIES AS TO CONTRACTOR PRODUCTS AND SERVICES. CONTRACTOR MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, COURSE OF DEALING AND USAGE OF TRADE

18. DELIVERY TIME:

All deliveries shall be made between the hours of 8:00a.m. and 2:00p.m., local time, Monday through Friday, excluding City holidays.

19. TRANSITION OF CONTRACT:

At least thirty days prior to the expiration or termination of this contract, vendor must provide all services necessary to ensure an orderly and efficient transition of the services, in whole or in part, to another provided and the City, including a transition plan, if required by the scope. Vendor will, without limitation, provide important information to the successor vendor and the City to ensure continuity of services at the required level of



SECTION III – SPECIAL TERMS & CONDITIONS

CITY OF PHOENIX

proficiency. Vendor agrees to provide to the City all files in ASCII format (or other City designated format), supplies, data, records, and any other properties or materials of the City, which the City owns or has rights to pursuant to this contract and which are in the possession of Vendor. The provisions of this section will survive the expiration of termination of this contract. Within the City's sole discretion, the Vendor agrees to a month-to-month extension at the same price(s) for continued services or goods deemed as essential by the City.

20. PROCUREMENT REPORTS:

Contractor shall submit a report within 30 days after the City inspects and accepts the Noncontact Level Meter and/or part. The report will be in an electronic format acceptable to the City during the term of this contract and any extensions commencing one month after the start period. Total purchases for each division must be shown on a separate line. Report should be rounded to the nearest dollar. Contractor will provide sample forms for approval by the City.

21. LIMITATION OF LIABILITY:

Contractor's maximum liability under this agreement under any theory of recovery, shall not exceed three times the contract price received by Contractor under this agreement.



SECTION IV – INSURANCE AND INDEMNIFICATION

CITY OF PHOENIX

1. INDEMNIFICATION CLAUSE:

Contractor (“Indemnitor”) must indemnify, defend, save and hold harmless the City of Phoenix and its officers, officials, agents, and employees (“Indemnatee”) from and against any and all third party claims, actions, liabilities, damages, losses, or expenses (including court costs, attorneys’ fees, and costs of claim processing, investigation and litigation) (“Claims”) to the extent caused by the wrongful or negligent acts, error or omissions or willful misconduct of Contractor or any of its owners, officers, directors, agents, employees or subcontractors in connection with this Contract. This indemnity includes any Claims arising out of or recovered under the Workers’ Compensation Law or arising out of the failure of Contractor to conform to any federal, state or local law, statute, ordinance, rule, regulation or court decree. If the Claim is caused by the parties’ joint or contributory negligence, the loss and/or expenses shall be borne by each party in proportion to its degree of negligence or fault. Contractor will be responsible for primary loss investigation, defense and judgment costs where this indemnification applies. In consideration of the award of this Contract, Contractor waives all rights of subrogation against Indemnatee for losses arising from the work performed by Contractor for the City. The obligations of Contractor under this provision survive the termination or expiration of this Contract.

Indemnatee shall provide the Indemnitor with prompt written notice of any third-party claims covered by this Article. The parties agree to work together toward resolving any claims.

2. INSURANCE REQUIREMENTS:

Contractor and subcontractors must procure insurance against claims that may arise from or relate to performance of the work hereunder by Contractor and its agents, representatives, employees and subcontractors. Contractor and subcontractors must maintain that insurance until all of their obligations have been discharged, including any warranty periods under this Contract.

These insurance requirements are minimum requirements for this Contract and in no way limit the indemnity covenants contained in this Contract. The City in no way warrants that the minimum limits stated in this section are sufficient to protect the Contractor from liabilities that might arise out of the purchase and use of the commodities sold under this contract by the Contractor, its agents, representatives, employees or subcontractors and Contractor is free to purchase additional insurance as may be determined necessary.

- 2.1 **MINIMUM SCOPE AND LIMITS OF INSURANCE:** Contractor must provide coverage with limits of liability not less than those stated below. An excess liability policy or umbrella liability policy may be used to meet the minimum liability requirements provided that the coverage is written on a “following form” basis.

2.1.1. **Commercial General Liability – Occurrence Form**



SECTION IV – INSURANCE AND INDEMNIFICATION

CITY OF PHOENIX

Policy must include bodily injury, property damage and broad form contractual liability coverage.

General Aggregate	\$2,000,000
Products – Completed Operations Aggregate	\$1,000,000
Personal and Advertising Injury	\$1,000,000
Each Occurrence	\$1,000,000

3. **ADDITIONAL INSURANCE REQUIREMENTS:** The policies are to contain, or be endorsed to contain, the following provisions:

- The Contractor's insurance coverage must be primary insurance and non-contributory with respect to all other available sources.

4. **NOTICE OF CANCELLATION:** For each insurance policy required by the insurance provisions of this Contract, the Contractor must provide to the City, within 2 business days of receipt, a notice if a policy is suspended, voided or cancelled for any reason. Such notice must be mailed, emailed, hand delivered or sent by facsimile transmission to **City of Phoenix, Attn: Audrey Mims, 200 W. Washington St, 9th floor, Phoenix, AZ 85003.**

5. **ACCEPTABILITY OF INSURERS:** Insurance is to be placed with insurers duly licensed or authorized to do business in the state of Arizona and with an "A.M. Best" rating of not less than B+ VI. The City in no way warrants that the above-required minimum insurer rating is sufficient to protect the Contractor from potential insurer insolvency.

6. **VERIFICATION OF COVERAGE:** Contractor must furnish the City with certificates of insurance (ACORD form or equivalent approved by the City) as required by this Contract. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf.

All certificates and any required endorsements are to be received and approved by the City before work commences. Each insurance policy required by this Contract must be in effect at or prior to commencement of work under this Contract and remain in effect for the duration of the project. Failure to maintain the insurance policies as required by this Contract or to provide evidence of renewal is a material breach of contract.

All certificates required by this Contract must be sent directly to City of Phoenix, Attn: Audrey Mims, 200 W. Washington St, 9th floor, Phoenix, AZ 85003. The City project/contract number and project description must be noted on the certificate of insurance. The City reserves the right to require complete, certified copies of all insurance policies required by this Contract at any time. **DO NOT SEND CERTIFICATES OF INSURANCE TO THE CITY'S RISK MANAGEMENT DIVISION.**

7. **APPROVAL:** Any modification or variation from the insurance requirements in this Contract must have prior approval from the City of Phoenix Law Department, whose decision is final.



**SECTION IV – INSURANCE AND
INDEMNIFICATION**

CITY OF PHOENIX

Such action will not require a formal Contract amendment but may be made by administrative action.

**LINKING AGREEMENT
BETWEEN
THE CITY OF GLENDALE, ARIZONA
AND**

SIEMENS INDUSTRY, INC.

**EXHIBIT B
Scope of Work**

PROJECT

Contractor will provide Siemens noncontact level meters and related parts as needed per the attached City of Phoenix Contract No. 152367, Scope of Work.



SECTION V – SCOPE OF WORK

CITY OF PHOENIX

1. PURPOSE:

This contract provides for Siemens Noncontact Level Meters (Meters) and Replacement Parts for the Water Services Department's Water Treatment Plants, Wastewater Treatment Plants, and other locations. These Meters are used to provide a constant level of measurement on chemicals, liquids, and solids (sludge). The Meters also deliver a continuous signal which is essential for automation control of variable frequency drives, motors, gates, valves, metering pumps, and initiating alarms.

2. BACKGROUND:

The City of Phoenix ("City"), Water Services Department (WSD) is responsible for 650 square miles of service area. Various types of meters are required to measure levels in storage tanks, chemical tanks, digesters, flumes, weirs, and other locations throughout the department. The primary objective of this contract is to ensure that the City of Phoenix (City) is supplied with Meters and replacement parts when a need has been identified.

3. SCOPE OF WORK:

- 3.1 The Contractor shall supply all labor, materials, equipment, supplies and transportation to provide Meters (ultrasonic) and replacement parts on an as-needed basis.
- 3.2 All parts will be Original Equipment Manufacturer (OEM) parts.
- 3.3 The exact configuration of all Meters is not known at every location.
- 3.4 The Contractor shall offer a website that the City can use to determine the required configuration for each location, but not allow orders to be placed on the website.
- 3.5 City staff will be responsible for installation, maintenance, repairs or replacement of existing parts.
- 3.6 If the City determines that the Contractor will be required to come on-site, City staff will escort the Contractor to the location where the Meter is located, and the existing meter will be removed to determine the configuration required.

4. NON-CONTACT LEVEL METER STANDARDS:

- 4.1 All labor performed shall be in accordance with OEM labor policies, Siemens Product Specifications and procedures. Labor times will be no greater than times published in an industry recognized labor guide such as the American Water Works Association (AWWA) or times that are standard in the industry if labor guides are not available.
- 4.2 All non-contact level meters and associated parts must meet the City of Phoenix Standard 17052, identified below.



CITY OF PHOENIX STANDARD 17052

INSTRUMENT TYPE L1 – LEVEL TRANSMITTER – ULTRASONIC TYPE

- A. Type: Non-contact system using transducer to convert electrical pulses from the transmitter into sonic pulses directed towards the metered surface and receives the reflected sonic pulses and converts them back into electrical pulses for reception by the transmitter. Transmitter shall generate and time the electrical pulses, and count and convert the pulse travel times into an analog output signal linearly proportional to level/flow.
- B. System Performance Requirements:
1. Accuracy: Not less than ± 0.25 percent of full-scale range.
 2. Linearity and Repeatability: Not less than ± 1 percent of full scale.
 3. Resolution shall be 0.1 percent of range of 2mm (0.08") whichever is greater.
 4. Minimum Operating Distance from Transducer (Deadband): 12-inches.
 5. Beam Pattern: (--1--) degree conical, maximum.
 6. Transmitter Outputs: Provide each of the following:
 - a. 4 to 20 mA DC, direct acting and isolated, signal proportional to level, into 0 to 750 ohms.
 - b. Minimum of six (6) independently adjustable alarm set point, relays outputs rated at five amps, 250 VAC non-inductive.
 - c. Loss of echo relay, which energizes when measured level falls beyond signal range or signal, is interrupted for any other reason. Relay output shall be rated five amps 250 VAC non-inductive.
 7. Environmental Conditions: Suitable for use under the environmental conditions specified in Section 17001, Process Control System General Requirements for Process Instrumentation.
 8. Power Consumption: 25 watts, maximum.
 9. Temperature Compensation: Range – 58 to 302°F, integral temperature sensor in transducer.
- C. Required Features:
1. Transducer:
 - a. Encapsulated by a corrosion resistant and submergence resistant material: PVDF.
 - b. (-- 1 --).
 - c. Designed for suspended PVC coated galvanized rigid steel conduit mounting or equipped with ANSI 150 pound flanges for flange mounting.
 - d. 1-inch external NPT PVC coated galvanized rigid steel conduit connection.
 2. Transmitter:
 - a. Solid state construction.
 - b. Built-in digital filtering for EMI protection and external acoustical noise rejection.



SECTION V – SCOPE OF WORK

CITY OF PHOENIX

- c. Built-in automatic compensation for variations in temperature, pressure and density of the sonic signal medium.
 - d. LCD indicator scaled in engineering units for the range required.
 - e. Software adjustable zero and span adjustment over 0 to 100 percent of the calibrated range.
 - f. Lost Echo and Power On Lights.
 - g. Housed in weatherproof, splash proof and corrosion resistant NEMA 4X enclosure and suitable wall or pipe stand mounting. Provide with a transparent window to permit viewing indicating meter and lights.
 - h. Internally mounted diagnostic LED's to allow isolation of faults in terms of major components.
 - i. Designed for operation on 120 VAC $\pm$ 10 percent, 60 Hz power supply.
3. Accessories:
- a. Transducer cables 2-3 copper conductors, twisted with shield and drain wire, the actual length required, for connection between the transducer and transmitter
 - b. One Hand held calibrator

5. LOCATIONS:

Val Vista Water Treatment Plant (WTP)
3200 E. McDowell Rd
Mesa, AZ 85213

24th St. WTP
6202 N. 24th St.
Phoenix, AZ 85016

Union Hills WTP
2001 E. Deer Valley Rd
Phoenix, AZ 85024

52nd St. Remote Facilities
5204 E. Thomas Rd.
Phoenix, AZ 85018

Cave Creek Remote Facilities
21642 N. 20th St.
Phoenix, AZ 85024

Cave Creek Reclamation Plant
22841 N. Cave Creek Rd.
Phoenix, AZ 85024

23rd Ave. Wastewater Treatment Plant (WWTP)
2470 S. 22nd Ave.
Phoenix, AZ 85009

91st Ave. WWTP
5616 S. 91st Ave.
Tolleson, AZ 85353

6. DELIVERABLES:

The Contractor shall provide the following deliverables:

Noncontact Meters
Replacement Parts
Manuals



SECTION V – SCOPE OF WORK

CITY OF PHOENIX

7. CRITERIA OF ACCEPTANCE:

- 7.1 Contractor shall provide original parts or substitute parts, as approved by the City.
- 7.2 The City shall have up to one (1) week to inspect the Meter and/or parts for damage or poor workmanship. If the Meter and/or parts are not accepted by the City, the Contractor will be notified of the damage or defect.
- 7.3 After the Contractor is notified, the City shall have up to one (1) additional week to return the equipment at the City's expense.
- 7.4 The Contractor shall provide a replacement for the Meter and/or parts that are damaged or defective.

	SECTION VI - SUBMITTALS	CITY OF PHOENIX
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1. COSTS AND PAYMENTS:

Contractor must choose an option. If an option is not checked, the City will default to 0% - Net 45 days.

 X Contractor offers a prompt payment discount of either 0 % - 30 days or 0% - 45 days - to apply after receipt of invoice or final acceptance of the products (invoice approval), whichever date is later, starts the 30 days. If no prompt payment discount is offered, the default is 0%, net 45 days; effective after receipt of invoice or final acceptance of the products, whichever is later.

 Contractor may be paid immediately upon invoice approval, if enrollment is made to the Single Use Account (SUA) Program, administered by the City's servicing bank ("Bank"). By checking this box, the Contractor accepts transaction costs charged by their merchant bank and agrees not to transfer to the City those extra charges. The City will not pay an increase in our services for the SUA charges; if an audit uncovers an upcharge for the SUA charges the Contractor will owe the City all costs. The Contractor may opt-out of the SUA program once, but then may not rejoin during the same contract term.

2. OPTION FOR ADDITIONAL QUANTITIES AND PRODUCTS:

The City anticipates considerable activity under the resultant contract. However, no guarantee can be made as to actual equipment, spare parts and quantities, that will be purchased under this contract. The City reserves the right to add, change or delete quantities or items as circumstances may require.

3. PRICE SCHEDULE:

See Attachment A - Price Schedule, which is enclosed and incorporated here.

**SECTION VI - SUBMITTALS****CITY OF PHOENIX****OFFER**

TO THE CITY OF PHOENIX - The Undersigned hereby offers and agrees to furnish the material and or service(s) in compliance with all terms, conditions, specifications, and addenda issued as a result of solicitation and any written exceptions in the offer.

Arizona Sales Tax No. _____

Use Tax No. for Out-of State Suppliers _____

City of Phoenix Sales Tax No. _____

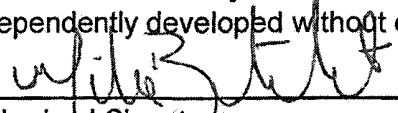
Arizona Corporation Commission File No. 3010517

Taxpayer's Federal Identification No.: If recommended for contract award, Bidder agrees to provide its federal taxpayer identification number or as applicable its social security number to the City of Phoenix for the purposes of reporting to appropriate taxing authorities, monies paid by the City of Phoenix under the awarded contract. If the Bidder provides its social security number, the City will only share this number with appropriate state and federal officials. This submission is mandatory under 26 U.S.C. § 6041A.

Enter City's Registration System ID Number
Located at City's eProcurement website (see
SECTION I – INSTRUCTIONS - CITY'S
REGISTRATION)

F08491959

Offeror has read, understands, and will fully and faithfully comply with this solicitation, its attachments and any referenced documents. Offeror certifies that the prices offered were independently developed without consultation with any other Offeror or potential Offerors.



Authorized Signature

Date

4/15/2020Siemens Industry, Inc.Verify Name and type of company
(LLC, Inc., Sole Proprietor)Michael Butchart, Segment Manager

Printed Name and Title

(Member, Manager, President)

Address

City, State and Zip Code

Telephone Number

Company's Fax Number

Company's Toll Free #

Email Address

2060 Detwiler RoadHarleysville, PA 19438800-365-8766267-470-3733800-365-8766



SECTION VI - SUBMITTALS

CITY OF PHOENIX

ACCEPTANCE OF OFFER

The Offer is hereby accepted.

The Contractor is now bound to sell the material(s) or service(s) listed by the attached contract and based upon the solicitation, including all terms, conditions, specification, amendments, etc. and the Contractor's Offer as accepted by the City.

This contract shall henceforth be referred to as Contract No. 152369. The Contractor has been cautioned not to commence any billable work or provide any material or service under this contract until Contractor receives purchase order, or contract documentation.

CITY OF PHOENIX

A Municipal Corporation

Ed Zuercher, City Manager

NP
NP

Kathryn Sorensen
Kathryn Sorensen (Jun 8, 2020 14:53 PDT)

Awarded this 3 day of June 2020

Director or delegate, Department

Kathryn Sorensen

Water Services Director

ATTEST:

Josee Archi Galt
City Clerk

06.10.2020



Approved as to form this 19th day of January 2017. This document has been approved as to form by the City Attorney and is on file with the City Clerk. It need not be submitted to the City Attorney for approval unless the form document is altered.

**ATTACHMENT A – PRICE SCHEDULE****CITY OF PHOENIX**

DESCRIPTION	MFR PART NO.	UNIT OF MEASURE	UNIT PRICE
1. HydroRanger 200	7ML5034-4AA02	EA	\$1,745.00
2. HydroRanger 200	7ML5034-4AA01	EA	\$1,668.00
3. HydroRanger 200	7ML5034-1AA01	EA	\$1,731.00
4. HydroRanger 200	7ML5034-1AB02	EA	\$2,101.00
5. HydroRanger 200	7ML5034-3AA01-Z+C11	EA	\$1,843.00
6. LR 200 Radar Level	7ML54222AB30	EA	\$1,910.00
7. LR 200 Radar Level	7ML54222DB30	EA	\$2,070.00
8. Sitrans Probe LU	7ML5221-2AA11	EA	\$1,261.00
9. Sitrans Probe LU	7ML5221-2AA14	EA	\$1,261.00
10. Transducer ST-H	7ML11000AA20	EA	\$989.00
11. Transducer ST-H	7ML1100OCA20	EA	\$1,088.00
12. Transducer XPS-10	7ML1115-0ED30	EA	\$1,107.00
13. Transducer XPS-15	7ML1118-0EA40	EA	\$1,007.00
14. Transducer ST-H	7ML1100-0DA20	EA	\$1,150.00
15. Transducer XRS-5	7ML1106-1AA20-0A	EA	\$571.00
16. Transducer XPS-10	7ML1115-0FA30	EA	\$875.00
17. Transducer ST-H	7ML1100-0BA20	EA	\$1,032.00
18. Transducer XPS-15	7ML11180FA40 (165 feet of cable required)	EA	\$1,057.00
19. Transducer XPS-15	7ML1118-0EA30	EA	\$1,007.00
20. Transducer XPS-15	7ML1118-0CA30	EA	\$962.00

The delivery time after receipt of purchase order may vary for each item.

The City reserves the right to add, change or delete items as circumstances may require.



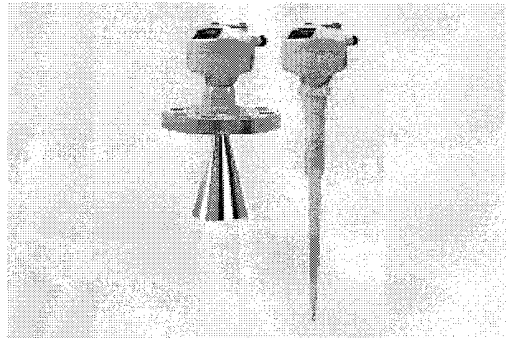
EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement Continuous level measurement Radar transmitters

SITRANS LR200

Overview



SITRANS LR200 is a 2-wire, 6 GHz pulse radar level transmitter for continuous monitoring of liquids and slurries in process vessels including high temperature, pressure, agitation, and turbulence to a range of 20 m (65 ft).

Benefits

- Graphical local user interface (LUI) makes operation simple with plug-and-play setup using the intuitive Quick Start Wizard
- LUI displays echo profiles for diagnostic support
- Communication using HART or PROFIBUS PA
- Process Intelligence signal processing for improved measurement reliability and Auto False-Echo Suppression of fixed obstructions
- Programming using Infrared Intrinsically Safe handheld programmer or SIMATIC PDM

Application

SITRANS LR200's unique design allows safe and simple programming using the Intrinsically Safe handheld programmer without having to open the instrument's lid. It also features a built-in alphanumeric display in four languages.

The SITRANS LR200 has a standard Uni-Construction polypropylene rod antenna that offers excellent chemical resistance and is hermetically sealed. The Uni-Construction antenna features an internal, integrated shield that eliminates vessel nozzle interference.

Startup is easy with as few as two parameters for basic operation. Installation is simplified as the electronics are mounted on a rotating head that swivels, allowing the instrument to line up with conduit or wiring connections or simply to adjust the position for easy viewing. SITRANS LR200 features Process Intelligence signal-processing technology for superior reliability.

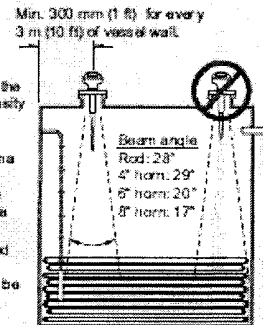
- Key Applications: liquid process vessels with agitators, vaporous liquids, high temperatures, asphalt

Configuration

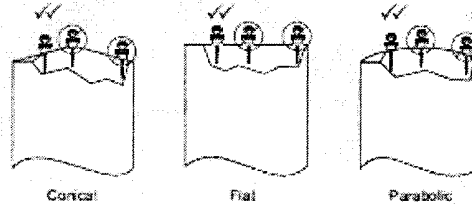
Installation

Note:

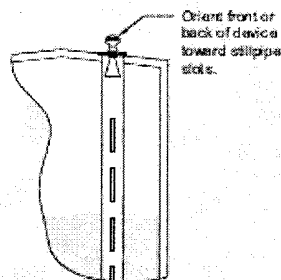
- Beam angle is the width of the cone where the energy density is half of the peak energy density.
- Beam angle for horn antenna dependent on horn size
- The peak energy density is directly in front of and in line with the rod antenna.
- There is a signal transmitted outside of the beam angle, therefore false targets may be detected.



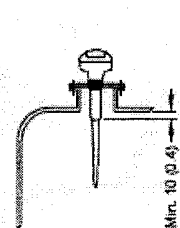
Mounting unit on vessel



Mounting unit on stilling well



Mounting on a nozzle



SITRANS LR200 installation, dimensions in mm (inch)



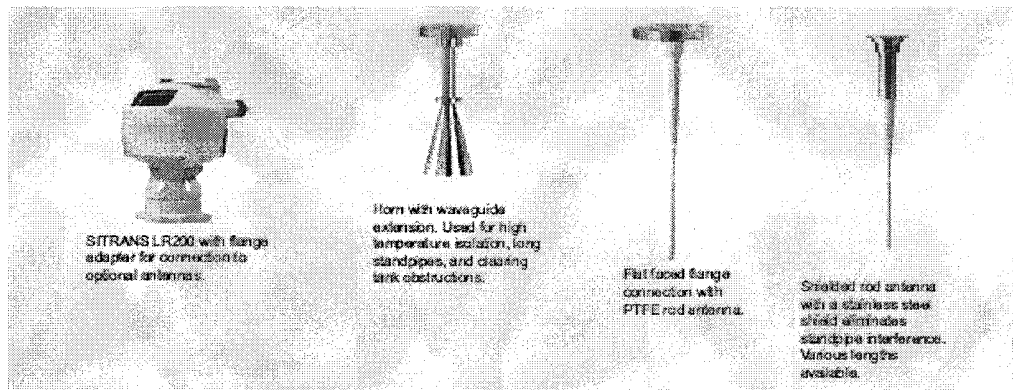
EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement
Continuous level measurement
Radar transmitters

SITRANS LR200

Integration



Antenna configurations for SITRANS LR200

Antenna types	Flat Faced Flange with Rod	Shielded Rod	Horn (4", 6", 8" sizes available)
Connection type	Flat faced flange nominal pipe sizes 50, 80, 100, 150 mm (2, 3, 4, 6 inch)	Threaded 2" NPT, R 2" (BSP), G 2" (BSP) or flat faced flange nominal pipe sizes 80, 100 mm (3, 4 inch)	Flat faced flange nominal pipe sizes 50, 80, 100, 150 mm (2, 3, 4, 6 inch)
Wetted parts	PTFE	PTFE, 316L stainless steel, FKM O-ring	316L stainless steel PTFE, FKM O-ring
Extensions	50 or 100 mm (2 or 4 inch) PTFE or UltraMW-PE	100, 150, 200 or 250 mm (4, 6, 8 or 10 inch) standard shield length	Use waveguide for extensions to 6 m (20 ft) long
Dielectric constant	> 3	> 3	> 3
Insertion length (max.)	41 cm (16.3 inch)	Variable	Variable with extension
Purging option (liquid or gas)	No	No	Yes
Sliding waveguide option for digesters ¹⁾	Yes	No	Yes
Weight ²⁾	6.5 kg (14.3 lb)	5.0 kg (11 lb)	7.5 kg (16.5 lb)

¹⁾ Maximum pressure 0.5 bar g at 60 °C (7.25 psi g at 140 °F)

²⁾ Not including extensions. Includes SITRANS LR200 and smallest process connection



EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement Continuous level measurement Radar transmitters

SITRANS LR200

Technical specifications

Mode of operation

Measuring principle	Radar level measurement
Frequency	C-band, approx. 6 GHz
Measuring range	0.3 ... 20 m (1.0 ... 65 ft)

Output

Analog output	4 ... 20 mA
Accuracy	± 0.02 mA
Span	Proportional or inversely proportional
Communications	HART Optional: PROFIBUS PA (Profile 3.0, Class II)

Fall-safe

Programmable as high, low or hold (loss of echo)

Performance (according to reference conditions IEC60770-1)

From end of antenna to 600 mm	40 mm (1.57 inch)
Remainder of range	10 mm (0.4 inch) or 0.1 % of span (whichever is greater)

Rated operating conditions

Installation conditions	
• Location	Indoor/outdoor
Ambient conditions (enclosure)	
• Ambient temperature	-40 ... +80 °C (-40 ... +176 °F)
• Installation category	I
• Pollution degree	4

Medium conditions

Dielectric constant ϵ_r	$\epsilon_r > 1.0$ (for $\epsilon_r < 2$, use stillpipe)
Vessel temperature and pressure	Varies with connection type; see Pressure/temperature curves for more information

Design

Enclosure	
• Material	Aluminum, polyester powder coated
• Cable inlet	2 x M20 x 1.5 or 2 x 1/2" NPT
Degree of protection	Type 4X/NEMA 4X, Type 6/NEMA 6, IP67, IP68
Weight	< 2.62 kg (5.71 lb) (polypropylene rod antenna)
Display (local)	Multi-segment alphanumeric liquid crystal with bar graph (representing level) available in four languages
Antenna	
• Material	Polypropylene rod, hermetically sealed construction, optional PTFE
• Dimensions	Standard 100 mm (4 inch) shield for maximum 100 mm (4 inch) nozzle, or optional 250 mm (10 inch) long shield Refer to SITRANS LR200 Antennas for optional rods and horns
• Optional rods and horns	
Process connections	
• Process connection	1/2" NPT (Taper), ANSI/ASME B1.20.1 R 1/2" (JISPT), EN 10226, or G 1/2" (JISPT), EN ISO 228-1 (polypropylene rod antenna) Refer to SITRANS LR200 Antennas for more connections
• Flange connection	

Power supply

4 ... 20 mA/HART	
• General Purpose, Non-Incendive, Intrinsically Safe	Nominal: 24 V DC (max. 30 V DC) with max. 550 Ω
• Flame proof, Increased safety, Explosion proof	Nominal: 24 V DC (max. 30 V DC) with max. 250 Ω
PROFIBUS PA	• 10.5 mA • Per IEC 61158-2

Certificates and approvals

General	CSA-USC, CE, FM, RCM
Marine	• Lloyd's Register of Shipping • ABS Type Approval
Radio	FCC, Industry Canada, and European (RED), RCM
Hazardous	
• Intrinsically Safe (Brazil)	INMETRO Ex ia IIC T4 Ga
• Explosion Proof (Canada/USA)	CSA/IM, Class I, Div. 1, Groups A, B, C, D; Class II, Div. 1, Groups E, F, G; Class III, T4 CSA/IM, Class I, Div. 1, Groups A, B, C, D; Class II, Div. 1, Groups E, F, G; Class III, T4
• Intrinsically Safe (Canada/USA)	CSA/IM, Class I, Div. 1, Groups A, B, C, D; Class II, Div. 1, Groups E, F, G; Class III, T4
• Non-Incendive (USA)	FM, Class I, Div. 2, Groups A, B, C, D, T5
• Flame Proof/Increased Safety (China)	NEPSI Ex d mb Ia IIC T4/Ex e mb Ia IIC T4
• Flame Proof (Europe)	ATEX II 1/2 G Ex d mb Ia IIC T4 Ga/Gb
• Increased Safety (Europe)	ATEX II 1/2 G Ex e mb Ia IIC T4 Ga/Gb
• Intrinsically Safe (Europe)	ATEX II 1G Ex ia IIC T4
• Intrinsically Safe (International)	IECEx Ex ia IIC T4
• Intrinsically Safe (Russia/Kazakhstan)	EAC Ex ia

Programming

Intrinsically Safe Siemens handheld programmer	Infrared receiver
• Approvals for handheld programmer	IS model: ATEX II 1GD Ex ia IIC T4 Ga Ex iaD 20 T135 °C T _g = 20 ... +50 °C CSA/IM Class I, II, and III, Div. 1, Groups A, B, C, D, E, F, G, T6 T _g = +50 °C
Handheld communicator	HART communicator 375
PC	• SIMATIC PDM • AMS • SITRANS DTM (for connecting to FDT such as PACTware or FieldCare)
Display (local)	Multi-segment alphanumeric liquid crystal with bar graph (representing level) available in four languages



EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement Continuous level measurement Radar transmitters

SITRANS LR200

Selection and Ordering data	Article No.	Selection and Ordering data	Order code
SITRANS LR200, Uni-Construction polypropylene rod antenna version 2-wire, 6 GHz pulse radar level transmitter for continuous monitoring of liquids and slurries in process vessels including high temperature and pressure, to a range of 20 m (66 ft). Max. 3 bar g (43.5 psi g) pressure and 80 °C (176 °F) ➤ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	➤ 7ML5422-00000000	Further designs Please add "-Z" to Article No. and specify Order code(s). Stainless steel tag (69 x 50 mm (2.71 x 1.97 inch)); Measuring-point number/identification (max. 27 characters): specify in plain text Manufacturer's test certificate: M to DIN 55360, Part 18 and to ISO 9000 NAMUR NE43 compliant, device preset to failsafe < 3.6 mA ¹⁾	Y15 C11 N07
Enclosure/Cable inlet Aluminum, epoxy painted 2 x 1/2" NPT 2 x M20 x 1.5	2 3	Operating instructions All literature is available to download for free, in a range of languages, at http://www.siemens.com/process-instrumentation/literature	
Polypropylene antenna type - (Max. 3 Bar pressure and 80 °C) 1 1/2" NPT (Taper), ANSI/ASME B1.20.1), c/w integral 100 mm shield R 1 1/2" (BSPT), EN 10226), c/w integral 100 mm shield G 1 1/2" (BSPP), EN ISO 228-1), c/w integral 100 mm shield 1 1/2" NPT (Taper), ANSI/ASME B1.20.1), c/w integral 250 mm shield R 1 1/2" (BSPT), EN 10226), c/w integral 250 mm shield G 1 1/2" (BSPP), EN ISO 228-1), c/w integral 250 mm shield	A B C D E F	Accessories Handheld programmer, intrinsically safe, EEx ia HART modem/USB (for use with a PC and SIMATIC PDM) One metallic cable gland M20 x 1.5, rated -40 ... +80 °C (-40 ... +176 °F), HART ²⁾ One metallic cable gland M20 x 1.5, rated -40 ... +80 °C (-40 ... +176 °F), PROFIBUS PA ³⁾ One general purpose polymeric cable gland M20 x 1.5, rated -20 ... +80 °C (-40 ... +176 °F) SITRANS RD100, loop powered display - see Chapter 7 SITRANS RD200, universal input display with Modbus conversion - see Chapter 7 SITRANS RD300, dual line display with totalizer and linearization curve and Modbus conversion - see Chapter 7 SITRANS RD500 web, universal remote monitoring solution for instrumentation - see Chapter 7 For applicable back up point level switch - see point level measurement section	Article No. 7ML1930-1BK 7MF4997-1DB 7ML1930-1AP 7ML1930-1AQ 7ML1930-1AM 7ML5741-... 7ML5740-... 7ML5744-... 7ML5750-...
Approvals General Purpose, CE, RED, RCM General Purpose, CSA FM, Industry Canada, FCC Intrinsically Safe, CSA Class I, II, Div. 1, Groups A, B, C, D, E, F, G, Industry Canada Intrinsically Safe, FM Class I, II, Div. 1, Groups A, B, C, D, E, F, G, FCC Intrinsically Safe, IECEx/ATEX II 1G Ex ia IIC T4, INMETRO Ex ia IIC T4, CE, RED, RCM, EAC Non incandive, FM Class I, Div. 2, Groups A, B, C, D, FCC ¹⁾ Increased Safety, ATEX II 1/2G Ex e mb ia IIC T4 Ga/Gb, CE, RED, RCM, EAC ²⁾ Flame Proof, ATEX II 1/2G Ex d mb ia IIC T4 Ga/Gb, CE, RED, RCM, EAC ²⁾ Explosion Proof, CSA/PM Class I, II, III, Groups A, B, C, D, E, F, G, Industry Canada, FCC ¹⁾	A B C D E F G H J		
Communication/Output PROFIBUS PA 4 ... 20 mA, HART, start-up at < 3.6 mA	2 3		

¹⁾ Available with enclosure option 2 only

²⁾ Available with enclosure option 3 only

³⁾ Available with communication option 3 only



EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement Continuous level measurement Radar transmitters

SITRANS LR200

Selection and Ordering data

Article No.

SITRANS LR200, Flange Adapter/PTFE Rod Antenna Version

7ML5423-

2-wire, 6 GHz pulse radar level transmitter for continuous monitoring of liquids and slurries in process vessels including high temperature and pressure, to a range of 20 m (66 ft).

Click on the Article No. for the online configuration in the PIA Life Cycle Portal.

Antenna material (uses antenna adapter)

PTFE, uses antenna adapter and additional process connection below

1

Process connection (refer to Pressure/ Temperature curves, page 4/204)

Flanges (316L stainless steel)

DN 50 PN 16, Type A, flat faced
DN 80 PN 16, Type A, flat faced
DN 100 PN 16, Type A, flat faced
DN 150 PN 16, Type A, flat faced

AA
BA
CA
DA

2" ASME 150 lb, flat faced
3" ASME 150 lb, flat faced
4" ASME 150 lb, flat faced
6" ASME 150 lb, flat faced

FB
GB
HB
JB

DN 50 PN 40, flat faced
DN 80 PN 40, flat faced
DN 100 PN 40, flat faced
DN 150 PN 40, flat faced

AC
BC
CC
DC

2" ASME 300 lb, flat faced, available with Pressure rating option 1 only due to flange hole spacing

FD

3" ASME 300 lb, flat faced
4" ASME 300 lb, flat faced
6" ASME 300 lb, flat faced

GD
HD
JD

JIS DN 50 10K
JIS DN 80 10K
JIS DN 100 10K
JIS DN 150 10K

AE
BE
CE
DE

(Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5, or EN 1092-1, or JIS B 2220 standard.)

Threaded connection (316L stainless steel)

1½" NPT (Taper), ANSI/ASME B1.20.1
2" NPT (Taper), ANSI/ASME B1.20.1
R 1½" (BSPT), EN 10226

LA
MA
LC

R 2" (BSPT), EN 10226

MC

G 1½" (BSPP), EN ISO 228-1

LE

G 2" (BSPP), EN ISO 228-1

ME

Antenna extensions or inactive shield length

No antenna extension

0

50 mm (2 inch) extension, PTFE

1

100 mm (4 inch) extension, PTFE

2

100 mm (4 inch) extension,

3

316L stainless steel shield¹⁾

150 mm (6 inch) extension,

4

316L stainless steel shield¹⁾

200 mm (8 inch) extension,

5

316L stainless steel shield¹⁾

250 mm (10 inch) extension,

6

316L stainless steel shield¹⁾

Process seal/gasket

Integral Gasket,
for flat faced flange process connections only,
not for Antenna extension options 3 ... 6

0

FKM O-ring,
not available for combination of flat faced flanges
with Antenna extension options 0, 1 or 2

1

Selection and Ordering data

Article No.

SITRANS LR200, Flange Adapter/PTFE Rod Antenna Version

7ML5423-

2-wire, 6 GHz pulse radar level transmitter for continuous monitoring of liquids and slurries in process vessels including high temperature and pressure, to a range of 20 m (66 ft).

Enclosure/Cable inlet

Aluminum, Epoxy painted

2 x ½" NPT

2

2 x M20 x 1.5

3

Communication/Output

PROFIBUS PA

B

4 ... 20 mA, HART, start-up at < 0.5 mA

C

Approvals

General Purpose, CE, RED, RCM

A

General Purpose, CSA FM, Industry Canada, FCC

B

Intrinsically Safe, CSA Class I, II, Div. 1,

C

Groups A, B, C, D, E, F, G, Industry Canada

Intrinsically Safe, FM Class I, II, Div. 1,

D

Groups A, B, C, D, E, F, G, FCC

Intrinsically Safe, IECEx/ATEX II 1G Ex ia IIC T4,

E

INMETRO Ex ia IIC T4, CE, RED, RCM, EAC

Non Incendive, FM Class I, Div. 2,

F

Groups A, B, C, D, FCC¹⁾

Increased Safety, ATEX II 1/2G Ex e mb ia IIC T4

G

Ga/Gb, CE, RED, RCM, EAC¹⁾

Flame Proof, ATEX II 1/2G Ex d mb ia IIC T4 Ga/

H

Gb, CE, RED, RCM, EAC¹⁾

Explosion Proof, CSA/IM Class I, II, III, Groups A,

J

B, C, D, E, F, G, Industry Canada, FCC²⁾

Pressure rating

Rating per Pressure/Temperature curves in manual

0

0.5 bar g (7.25 psi g) maximum

1

¹⁾ Available with process connection options BA, CA, DA, GB, HB, JB, BC,

CC, CC, GD, HD, JD, BE, CE, DE, MA, MC, ME only

²⁾ Available with enclosure option 2 only

³⁾ Available with enclosure option 3 only

⁴⁾ Available with communication option C only



EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement
Continuous level measurement
Radar transmitters

SITRANS LR200

Selection and Ordering data	Order code
<i>Further designs</i>	
Please add "Z" to Article No. and specify Order code(s).	
Stainless steel tag (69 x 50 mm (2.71 x 1.97 inch)). Measuring-point number/identification (max. 27 characters); specify in plain text	Y15
Manufacturer's test certificate: M to DIN 55350, Part 18 and to ISO 9000	C11
Material inspection Certificate Type 3.1 per EN 10204	C12
Nemur NE43 compliant, device preset to failsafe < 3.6 mA ^{PI}	N07
<i>Operating instructions</i>	
All literature is available to download for free, in a range of languages, at http://www.siemens.com/proc-sinstrans/documentation	
<i>Accessories</i>	Article No.
Handheld programmer, Intrinsically safe, EEx ia	7ML1930-1BK
Antenna, rod, PTFE	7ML1930-1HC
Antenna extension, 50 mm (2 inch), PTFE	7ML1930-1CH
Antenna extension, 100 mm (4 inch), PTFE	7ML1930-1CG
HART modem / USB (for use with PC and SIMATIC PDM)	7MF4997-1DB
Metallic cable gland M20 x 1.5, rated -40 °C (-40 °F) ... 80 °C (176 °F), HART (two are required)	7ML1930-1AP
Metallic cable gland M20 x 1.5, rated -40 °C (-40 °F) ... 80 °C (176 °F), PROFIBUS PA (two required)	7ML1930-1AQ
One General Purpose polymeric cable gland M20 x 1.5, rating for -20 °C (-4 °F) ... + 80 °C (176 °F)	7ML1930-1AM
SITRANS RD100, loop powered display - see Chapter 7	7ML5741-...
SITRANS RD200, universal input display with Modbus conversion - see Chapter 7	7ML5740-...
SITRANS RD300, dual line display with totalizer and linearization curve and Modbus conversion - see Chapter 7	7ML5744-...
SITRANS RD500 web, universal remote monitoring solution for instrumentation - see Chapter 7	7ML5750-...
For applicable back up point level switch - see point level measurement section	



EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement Continuous level measurement Radar transmitters

SITRANS LR200

Selection and Ordering data

SITRANS LR200, Flange adapter/Horn Antenna version

2-wire, 6 GHz pulse radar level transmitter for continuous monitoring of liquids and slurries in process vessels including high temperature and pressure, to a range of 20 m (66 ft).

Click on the Article No. for the online configuration in the PIA Life Cycle Portal.

Antenna material (uses antenna adapter)

316L stainless steel with PTFE cone emitter
316L stainless steel with PTFE cone emitter and purge connection with 1/8" NPT inlet⁽¹⁾

Process connection (refer to Pressure/ Temperature curves, page 4/204)

Flanges (316L stainless steel)

DN 50 PN 16 EN 1092-1 Type A flat faced⁽¹⁾

DN 80 PN 16 EN 1092-1 Type A flat faced

DN 100 PN 16 EN 1092-1 Type A flat faced

DN 150 PN 16 EN 1092-1 Type A flat faced

DN 200 PN 16 EN 1092-1 Type A flat faced

DN 80 PN 10/16 DIN EN 1092-1 Type B1 raised face⁽²⁾

DN 100 PN 10/16 DIN EN 1092-1 Type B1 raised face⁽²⁾

DN 150 PN 10/16 DIN EN 1092-1 Type B1 raised face⁽²⁾

DN 200 PN 16 DIN EN 1092-1 Type B1 raised face⁽²⁾

2" ASME 150 lb, flat faced⁽¹⁾

3" ASME 150 lb, flat faced

4" ASME 150 lb, flat faced

6" ASME 150 lb, flat faced

8" ASME 150 lb, flat faced

DN 50 PN 40, flat faced⁽²⁾

DN 80 PN 40, flat faced⁽²⁾

DN 100 PN 40, flat faced⁽²⁾

DN 80 PN 25/40 DIN EN 1092-1 Type B1 raised face⁽²⁾

DN 100 PN 25/40 DIN EN 1092-1 Type B1 raised face⁽²⁾

DN 150 PN 25/40 DIN EN 1092-1 Type B1 raised face⁽²⁾

2" ASME 300 lb, flat faced⁽¹⁾⁽³⁾

3" ASME 300 lb, flat faced⁽³⁾

4" ASME 300 lb, flat faced⁽³⁾

JIS DN 50 10K⁽¹⁾

JIS DN 80 10K

JIS DN 100 10K

JIS DN 150 10K

JIS DN 200 10K

(Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5, or EN 1092-1, or JIS B 2220 standard.)

Communication/Output

PROFIBUS PA

4 ... 20 mA, HART, start-up at < 3.6 mA

Article No.

7ML5425-

Selection and Ordering data

SITRANS LR200, Flange adapter/Horn Antenna version

2-wire, 6 GHz pulse radar level transmitter for continuous monitoring of liquids and slurries in process vessels including high temperature and pressure, to a range of 20 m (66 ft).

Process seal/gasket FKM (-40 ... +200 °C)

Enclosure/Cable inlet

Aluminum, Epoxy painted

2 x 1/2" NPT

2 x M20 x 1.5

Horn size/Waveguide options

50 mm (3 inch) horn⁽⁵⁾

100 mm (4 inch) horn⁽⁴⁾

150 mm (6 inch) horn

200 mm (8 inch) horn

100 mm (4 inch) horn with 100 mm (4 inch)

waveguide extension⁽¹⁾

100 mm (4 inch) horn with 150 mm (6 inch)

waveguide extension⁽¹⁾

100 mm (4 inch) horn with 200 mm (8 inch)

waveguide extension⁽¹⁾

100 mm (4 inch) horn with 250 mm (10 inch)

waveguide extension⁽¹⁾

150 mm (6 inch) horn with 100 mm (4 inch)

waveguide extension

150 mm (6 inch) horn with 150 mm (6 inch)

waveguide extension

150 mm (6 inch) horn with 200 mm (8 inch)

waveguide extension

150 mm (6 inch) horn with 250 mm (10 inch)

waveguide extension

200 mm (8 inch) horn with 100 mm (4 inch)

waveguide extension

200 mm (8 inch) horn with 150 mm (6 inch)

waveguide extension

200 mm (8 inch) horn with 200 mm (8 inch)

waveguide extension

200 mm (8 inch) horn with 250 mm (10 inch)

waveguide extension

Article No.

7ML5425-



EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement Continuous level measurement Radar transmitters

SITRANS LR200

Selection and Ordering data		Article No.	Selection and Ordering data		Order code
SITRANS LR200, Flange adapter/Horn Antenna version		7ML5425-	<i>Further designs</i>		
2-wire, 6 GHz pulse radar level transmitter for continuous monitoring of liquids and slurries in process vessels including high temperature and pressure, to a range of 20 m (66 ft).			Please add '-Z' to Article No. and specify Order code(s)		
Approvals			Stainless steel tag (60 x 60 mm (2.7" x 1.97 inch)); Measuring-point number/identification (max. 27 characters); specify in plain text		Y15
General Purpose, CE, RED, RCM		A	Manufacturer's test certificate: M to DIN 55350, Part 18 and to ISO 9000		C11
General Purpose, CSA FM, Industry Canada, FCC		B	Material Inspection Certificate Type 3.1 per EN 10204		C12
Intrinsically Safe, CSA Class I, II, Div. 1, Groups A, B, C, D, E, F, G, Industry Canada		C	Namur NE43 compliant, device preset to failsafe < 3.6 mA ¹⁾		N07
Intrinsically Safe, FM Class I, II, Div. 1, Groups A, B, C, D, E, F, G, FCC		D	<i>Operating instructions</i>		
Intrinsically Safe, IECEx/ATEX II 1G Ex ia IIC T4, INMETRO Ex ia IIC T4, CE, RED, RCM; EAC		E	All literature is available to download for free, in a range of languages, at http://nsl.siemens.com/processinstrumentsandautomation		
Non incandive, FM Class I, Div. 2, Groups A, B, C, D, FCC ²⁾		F	<i>Accessories</i>		
Increased Safety, ATEX II 1/2G Ex e mb ia IIC T4 Ga/Gb, CE, RED, RCM; EAC ³⁾		G	Handheld programmer, Intrinsically safe, EEx ia		Article No. 7ML1930-1BK
Flame Proof, ATEX II 1/2G Ex d mb ia IIC T4 Ga/Gb, CE, RED, RCM; EAC ³⁾		H	HART modem/USB (for use with a PC and SIMATIC PDM)		7MF4997-1DB
Explosion Proof, CSA/FM Class I, II, III, Groups A, B, C, D, E, F, G, Industry Canada, FCC ³⁾⁽⁴⁾		J	One metallic cable gland M20 x 1.5, rated -40 ... +80 °C (-40 ... +176 °F), HART ⁵⁾		7ML1930-1AP
Pressure rating			One metallic cable gland M20 x 1.5, rated -40 ... +80 °C (-40 ... +176 °F), PROFIBUS PA ⁵⁾		7ML1930-1AQ
Rating per Pressure/Temperature curves in manual		0	One general purpose polymeric cable gland M20 x 1.5, rated -40 ... +60 °C (-40 ... +176 °F)		7ML1930-1AM
0.5 bar g (7.25 psi g) maximum		1	SITRANS RD100, loop powered display - see Chapter 7		7ML5741-...
¹⁾ Available with pressure rating option 1 only			SITRANS RD200, universal input display with Modbus conversion - see Chapter 7		7ML5740-...
²⁾ Available with Antenna Material options 0 and 1 only			SITRANS RD300, dual line display with totalizer and linearization curve and Modbus conversion - see Chapter 7		7ML5744-...
³⁾ For atllipipe applications only			SITRANS RD500 web, universal remote monitoring solution for instrumentation - see Chapter 7		7ML5750-...
⁴⁾ Available with enclosure option 2 only			For applicable back up point level switch - see point level measurement section		
⁵⁾ Available with enclosure option 3 only			¹⁾ Available with communication option 2 only		
⁶⁾ Available with communication option 2 only			²⁾ Product shipped with plastic cable gland, rated to -20 °C. If -40 °C rating required, then metallic cable gland is recommended.		
			³⁾ Available with enclosure option 2 only		



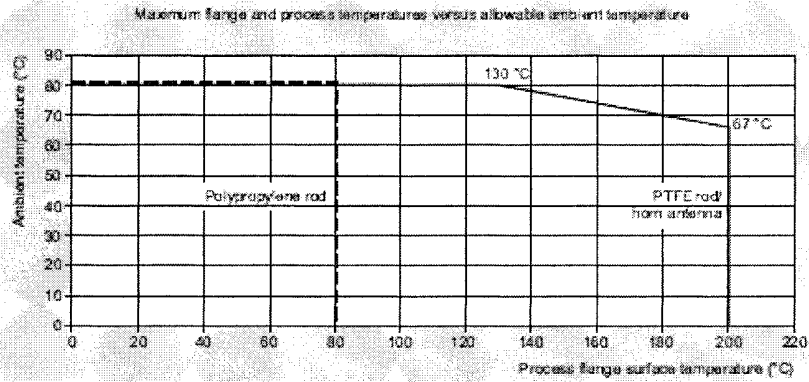
EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement Continuous level measurement Radar transmitters

SITRANS LR200

Characteristic curves



SITRANS LR200 ambient/process flange surface temperature curve

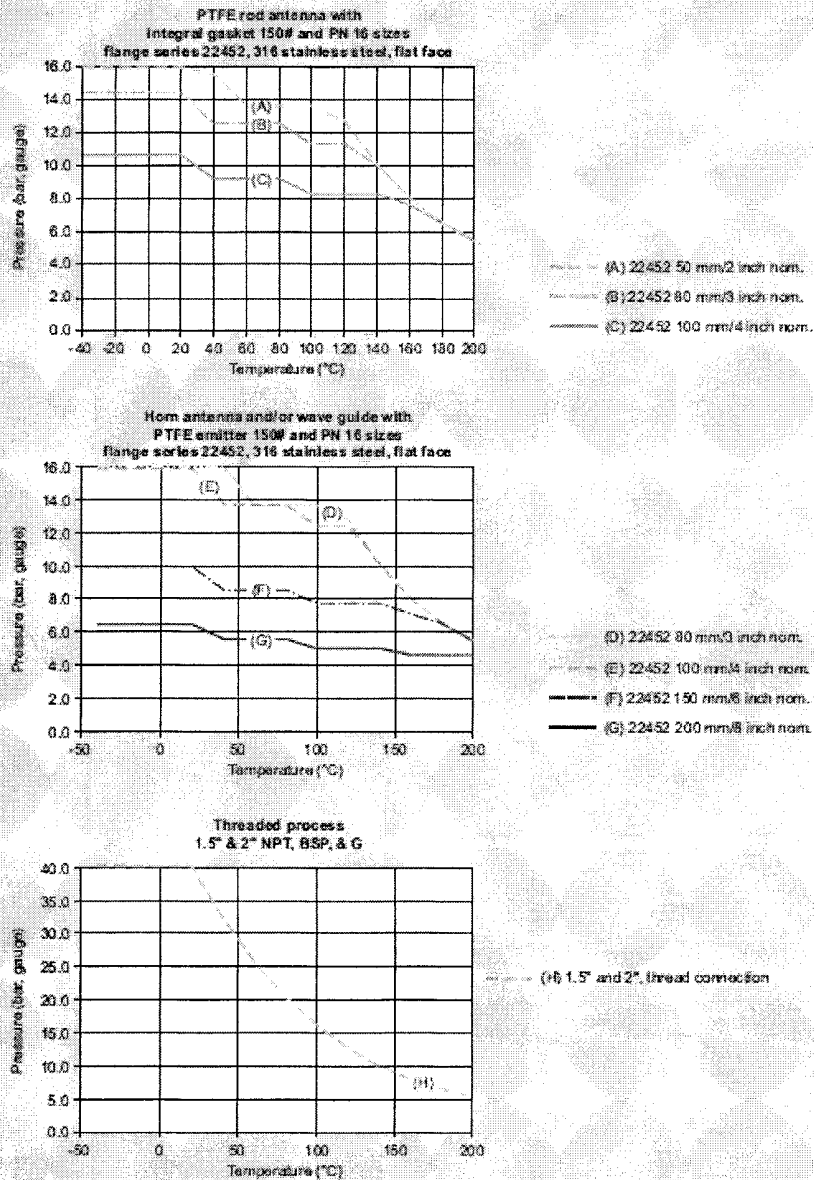


EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement
Continuous level measurement
Radar transmitters

SITRANS LR200



SITRANS LR200 process pressure/temperature derating curves



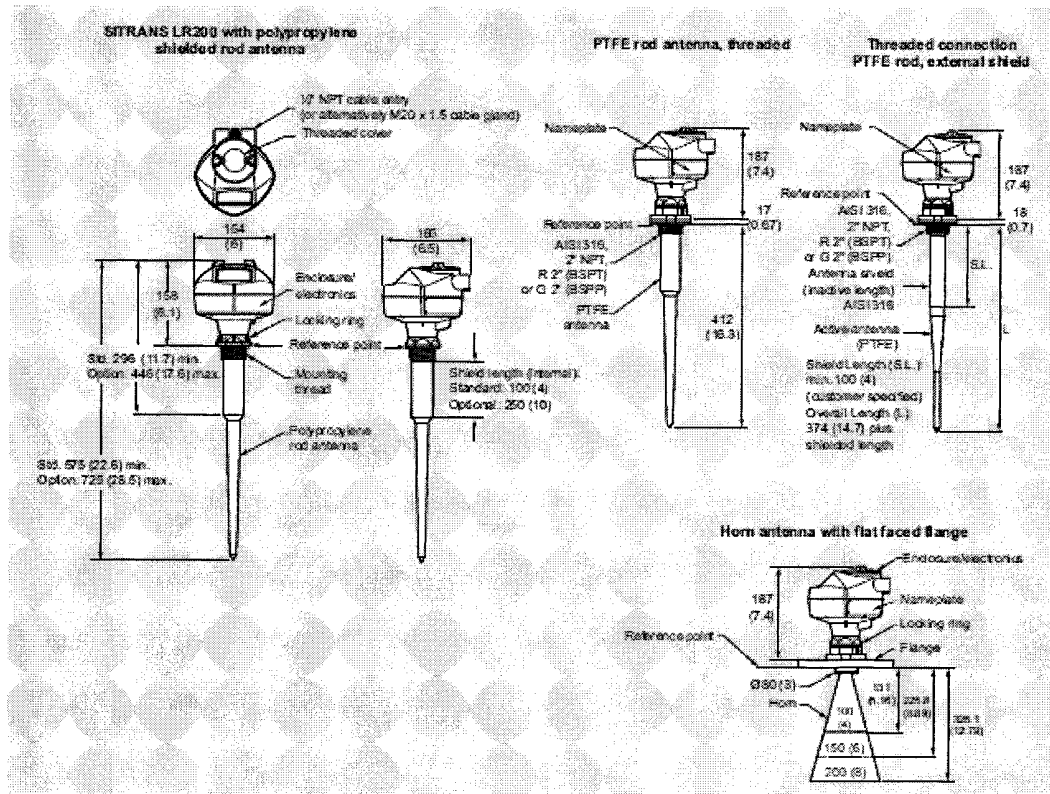
EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement
Continuous level measurement
Radar transmitters

SITRANS LR200

Dimensional drawings



SITRANS LR200, dimensions in mm (inch)



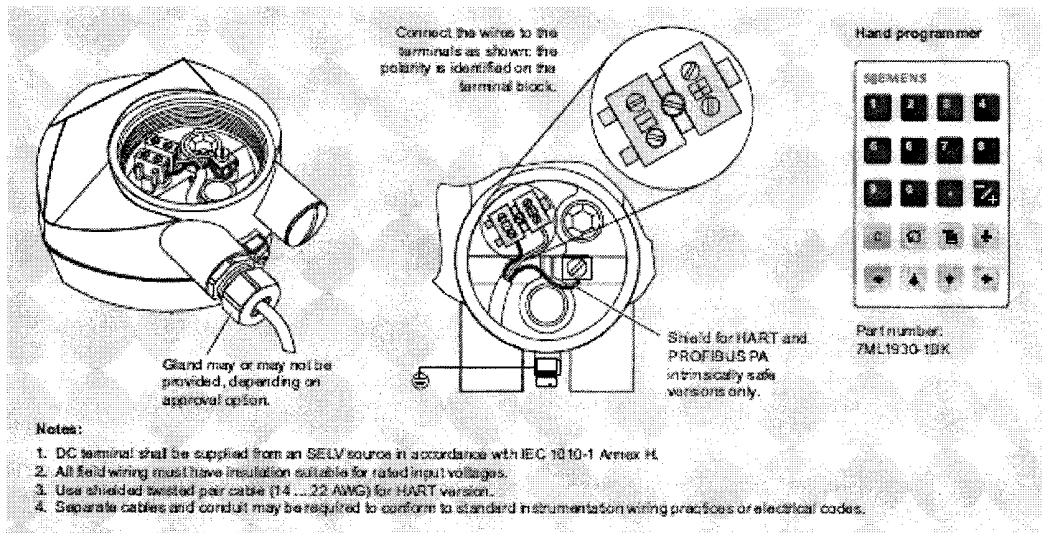
EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement Continuous level measurement Radar transmitters

SITRANS LR200

Circuit diagrams



SITRANS LR200 connections



EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement

Continuous level measurement
Radar transmitters

SITRANS LR200 Specials

Selection and ordering data

SITRANS LR200 Specials

SITRANS LR200 PROFIBUS PA Aluminum Enclosure Kit with electronics and covers (7ML5422, 7ML5423, 7ML5424, 7ML5425), calibrated for use with standard rod antenna

Article No.



A5E01483420

SITRANS LR200 aluminum enclosure with board stack, LUI display, 5.8 GHz, M20 cable inlet, approval option E, with PROFIBUS PA communication, no process connection.

A5E01483440

SITRANS LR200 aluminum enclosure with board stack, LUI display, 5.8 GHz, M20 cable inlet, approval option A, with PROFIBUS PA communication, no process connection.

A5E01483456

SITRANS LR200 aluminum enclosure with board stack, LUI display, 6.3 GHz, M20 cable inlet, approval option C, with PROFIBUS PA communication, no process connection.

A5E01483547

SITRANS LR200 aluminum enclosure with board stack, LUI display, 6.3 GHz, NPT cable inlet, approval option C, with PROFIBUS PA communication, no process connection.

A5E01483559

SITRANS LR200 aluminum enclosure with board stack, LUI display, 5.8 GHz, NPT cable inlet, approval option E, with PROFIBUS PA communication, no process connection.

SITRANS LR200 HART aluminum enclosure kit with electronics and covers (7ML5422, 7ML5423, 7ML5424, 7ML5425), calibrated for use with standard rod antenna



A5E02956419

SITRANS LR200 aluminum enclosure with board stack, LUI display, 5.8 GHz, M20 cable inlet, approval option A, with HART communication start-up at < 3.6 mA, no process connection.

A5E02956420

SITRANS LR200 aluminum enclosure with board stack, LUI display, 5.8 GHz, M20 cable inlet, approval option E, with HART communication start-up at < 3.6 mA, no process connection.

A5E02956421

SITRANS LR200 aluminum enclosure with board stack, LUI display, 5.8 GHz, M20 cable inlet, approval option G, with HART communication start-up at < 3.6 mA, no process connection.

A5E02956422

SITRANS LR200 aluminum enclosure with board stack, LUI display, 5.8 GHz, M20 cable inlet, approval option H, with HART communication start-up at < 3.6 mA, no process connection.

SITRANS LR200 Specials

Article No.

A5E03617085

SITRANS LR200 aluminum enclosure with board stack, LUI display, 5.8 GHz, NPT cable inlet, approval option A, with HART communication start-up at < 3.6 mA, no process connection.

A5E03617086

SITRANS LR200 aluminum enclosure with board stack, LUI display, 6.3 GHz, NPT cable inlet, approval option B, with HART communication start-up at < 3.6 mA, no process connection.

A5E03617087

SITRANS LR200 aluminum enclosure with board stack, LUI display, 5.8 GHz, NPT cable inlet, approval option C, with HART communication start-up at < 3.6 mA, no process connection.

A5E03617088

SITRANS LR200 aluminum enclosure with board stack, LUI display, 6.3 GHz, NPT cable inlet, approval option E, with HART communication start-up at < 3.6 mA, no process connection.

Sun shield for SITRANS LR200 enclosure, stainless steel



A5E39142558

SITRANS LR200 Horn Antenna Kits with mounting screws (no emitter supplied)



PBD:25500K02A

80 mm (3 inch) horn antenna kit

PBD:25500K03A

100 mm (4 inch) horn antenna kit

PBD:25500K05A

150 mm (6 inch) horn antenna kit

SITRANS LR200 Extension Kits for Horn Antenna with mounting screws

PBD:25501K0100A

100 mm (4 inch) extension kit for horn antenna

PBD:25501K0150A

150 mm (6 inch) extension kit for horn antenna

PBD:25501K0200A

200 mm (8 inch) extension kit for horn antenna

PBD:25501K0250A

250 mm (10 inch) extension kit for horn antenna

PBD:25501K0500A

500 mm (20 inch) extension kit for horn antenna

PBD:25501K1000A

1000 mm (40 inch) extension kit for horn antenna



EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement
Continuous level measurement
Radar transmitters

SITRANS LR200 Specials

SITRANS LR200 Specials

Article No.

SITRANS LR200 Flanged Rod Antenna Kit with 316L stainless steel flat faced flanges



Flanged PTFE rod antenna kit, 2" ASME, 150 lb. See drawing 51003 on <http://www.siemens.com/radar> (34)

PBD:
51003K020AAA

Flanged PTFE rod antenna kit, DN 50 PN 16. See drawing 51003 on <http://www.siemens.com/radar> (34)

PBD:
51003K050AJAA

Flanged PTFE rod antenna kit, JIS 10K DN 50. See drawing 51003 on <http://www.siemens.com/radar> (34)

PBD:
51003K050AJAA

SITRANS LR200 PTFE Rod Antenna Kit with 316L stainless steel 1½" pipe thread process connection



PTFE rod antenna kit, R 1½" (BSPT), EN 10226 316L stainless steel process connection, FKM O-ring; see drawing 51004 on <http://www.siemens.com/radar> (34)

PBD:
51004K2AAA

PTFE rod antenna kit, 1½" G 316L stainless steel process connection, FKM O-ring; see drawing 51004 on <http://www.siemens.com/radar> (34)

PBD:
51004K3AAA

SITRANS LR200 PTFE Rod Antenna Kit with 316L stainless steel 2" pipe thread process connection



PTFE rod antenna kit, 2" NPT 316L stainless steel process connection, FKM O-ring; see drawing 51005 on <http://www.siemens.com/radar> (34)

PBD:
51005K1AAA

PTFE rod antenna kit, R 2" (BSPT), EN 10226 316L stainless steel process connection, FKM O-ring; see drawing 51005 on <http://www.siemens.com/radar> (34)

PBD:
51005K2AAA

PTFE rod antenna kit, 2" G 316L stainless steel process connection, FKM O-ring; see drawing 51005 on <http://www.siemens.com/radar> (34)

PBD:
51005K3AAA

SITRANS LR200 Specials

Article No.

SITRANS LR200 PTFE Rod Antenna Kit (100 mm shield) with 316L stainless steel 2" pipe thread process connection



PTFE rod antenna shielded kit, 2" NPT 316L stainless steel process connection, FKM O-ring, 100 mm 316L stainless steel shield. See drawing 51002 on <http://www.siemens.com/radar> (34)

PBD:
51002K0100AAA

PTFE rod antenna shielded kit, R 2" (BSPT), EN 10226 316L stainless steel process connection, FKM O-ring, 100 mm 316L stainless steel shield. See drawing 51002 on <http://www.siemens.com/radar> (34)

PBD:
51002K0100BAA

PTFE rod antenna shielded kit, 2" G 316L stainless steel process connection, FKM O-ring, 100 mm 316L stainless steel shield. See drawing 51002 on <http://www.siemens.com/radar> (34)

PBD:
51002K0100CAA

SITRANS LR200 Horn Antenna Kit with 316L stainless steel flat faced flange, with PTFE emitter (without waveguide)



Horn antenna kit, 2" ASME 316L stainless steel flange 3 inch horn, PTFE emitter (34)

PBD:
51006K020AAAA

Horn antenna kit, 2" ASME 316L stainless steel flange 4 inch horn, PTFE emitter (34)

PBD:
51006K020AABA

Horn antenna kit, 2" ASME 316L stainless steel flange 6 inch horn, PTFE emitter (34)

PBD:
51006K020AACA

Horn antenna kit, 2" ASME 316L stainless steel flange 8 inch horn, PTFE emitter (34)

PBD:
51006K020AADA

Horn antenna kit, DN 50 PN 16 316L stainless steel flange 80 mm horn, PTFE emitter (34)

PBD:
51006K050AJAA

Horn antenna kit, DN 50 PN 16 316L stainless steel flange 100 mm horn, PTFE emitter (34)

PBD:
51006K050AJBA

Horn antenna kit, DN 50 PN 16 316L stainless steel flange 150 mm horn, PTFE emitter (34)

PBD:
51006K050AJCA

Horn antenna kit, DN 50 PN 16 316L stainless steel flange 200 mm horn, PTFE emitter (34)

PBD:
51006K050AJDA



EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement Continuous level measurement Radar transmitters

SITRANS LR200 Specials

SITRANS LR200 Specials

Article No.

SITRANS LR200 PTFE flanged rod antenna kit with 316L stainless steel shield and 316L stainless steel flat faced flange



PTFE shielded rod antenna kit, flanged,
3" ASME, 150 lb 316L stainless steel flange,
100 mm 316L stainless steel shield.⁽¹⁾

PBD:
51014K0100AAA

PTFE shielded rod antenna kit, flanged,
DN 80 PN 16 316L stainless steel flange,
100 mm 316L stainless steel shield.⁽¹⁾

PBD:
51014K0100EJA

PTFE shielded rod antenna kit, flanged,
3" ASME, 150 lb 316L stainless steel flange,
150 mm 316L stainless steel shield.⁽¹⁾

PBD:
51014K0150AAA

PTFE shielded rod antenna kit, flanged,
DN 80 PN 16 316L stainless steel flange,
150 mm 316L stainless steel shield.⁽¹⁾

PBD:
51014K0150EJA

PTFE shielded rod antenna kit, flanged,
3" ASME, 150 lb 316L stainless steel flange,
200 mm 316L stainless steel shield.⁽¹⁾

PBD:
51014K0200AAA

PTFE shielded rod antenna kit, flanged,
DN 80 PN 16 316L stainless steel flange,
200 mm 316L stainless steel shield.⁽¹⁾

PBD:
51014K0200EJA

PTFE shielded rod antenna kit, flanged,
3" ASME, 150 lb 316L stainless steel flange,
250 mm 316L stainless steel shield.⁽¹⁾

PBD:
51014K0250AAA

PTFE shielded rod antenna kit, flanged,
DN 80 PN 16 316L stainless steel flange,
250 mm 316L stainless steel shield.⁽¹⁾

PBD:
51014K0250EJA

PTFE grease

Kit, PTFE grease, 5 Dupont 1 GR Polypack

A5E01151626

Cable gland

One metallic cable gland M20 x 1.5,
rated -40 ... +60 °C (-40 ... +176 °F), HART

7ML1930-1AP

One metallic cable gland M20 x 1.5,
rated -40 ... +60 °C (-40 ... +176 °F),
PROFIBUS PA

7ML1930-1AQ

Ex-proof plugs

Ex-proof plugs kit, 1/2" NPT, qty 5

A5E39979991

Ex-proof plugs kit, M20, qty 5

A5E39979992

⁽¹⁾ Available in flange sizes including ASME, DIN and JIS.
Please consult a local sales person for details.

⁽²⁾ Available with no pressure rating.
Please consult a local sales person for details.

⁽³⁾ Available in other shield lengths.
Please consult a local sales person for details.

⁽⁴⁾ Available with Pressure rating.
Please consult a local sales person for details.

Customers interested in a custom designed device should consult a local sales person. For more information, please visit
http://www.automatics.com/usa/usa_app.



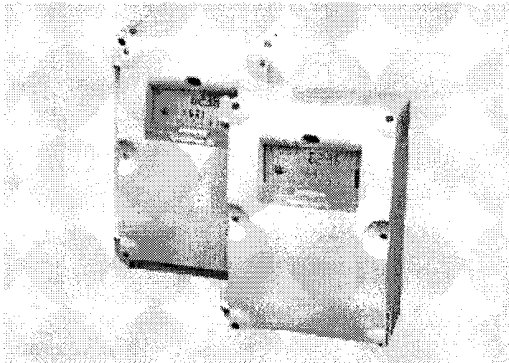
EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement Continuous level measurement Ultrasonic controller

HydroRanger 200

Overview



HydroRanger 200 is an ultrasonic level controller for up to six pumps and provides control, differential control, and open channel flow monitoring.

Benefits

- Monitors wet wells, weirs and flumes
- Digital communications with built-in Modbus RTU via RS 485
- Compatible with SmartLink communication options or SIMATIC PDM via RS 485
- Single or dual point level monitoring
- 6 relay (standard), 1 or 3 relay (optional)
- Auto False-Echo Suppression for fixed obstruction avoidance
- Anti-grease ring/foam mark buildup
- Differential amplifier transceiver for common mode noise rejection and improved signal-to-noise ratio
- Wall and panel mounting options

Application

For water authorities, municipal water, and wastewater plants HydroRanger 200 is an economical, low-maintenance solution delivering control efficiency and productivity needed to meet today's exacting standards. It offers single point monitoring with 1 model, and optional dual-point monitoring with 6 relay mode. As well, it has digital communications with built-in Modbus RTU via RS 485.

The standard 6 relay HydroRanger 200 will monitor open channel flow and features more advanced relay alarming and pump control functions as well as volume conversion. It is compatible with SIMATIC PDM, allowing for PC configuration and setup. Sono Intelligence advanced echo-processing software provides increased reading reliability. The optional 1 or 3 relay models provide accurate level measurement functions only; these two models do not provide open channel flow, differential level measurement or volume conversion functions.

HydroRanger 200 uses proven continuous ultrasonic echolocation technology to monitor water and wastewater of any consistency up to 15 m (50 ft) in depth. Achievable resolution is 0.1 with accuracy to 0.25 % of range. Unlike contacting devices, HydroRanger 200 is immune to problems caused by suspended solids, harsh corrosives, grease or silt in the effluent, reducing downtime.

- Key Applications: wet wells, flumes/weirs, bar screen control



EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement Continuous level measurement Ultrasonic controllers

HydroPanger 200

Technical specifications

Mode of Operation

Measuring principle	Ultrasonic level measurement
Measuring range	0.3 ... 15 m (1 ... 50 ft), transducer dependent
Measuring points	1 or 2

Input

Analog	0 ... 20 mA or 4 ... 20 mA, from alternate device, scalable (0 relay model)
Discrete	10 ... 50 V DC switching level Logical 0 ≤ 0.5 V DC Logical 1 = 10 ... 50 V DC Max. 3 mA

Output

EchoMax transducer	44 kHz
Ultrasonic transducer	Compatible transducers: SH and EchoMax series XPS, 10, XPS 15/15R and XRS-5
Relays ¹⁾	Rating 5 A at 250 V AC, non-inductive
• Model with 1 relay ²⁾	1 SPST Form A
• Model with 3 relays ²⁾	2 SPST Form A/1 SPDT Form C
• Model with 6 relays	4 SPST Form A/2 SPDT Form C
mA output	0 ... 20 mA or 4 ... 20 mA
• Max. load	750 Ω, isolated
• Resolution	0.1 % of range

Accuracy

Error in measurement	0.25 % of range or 6 mm (0.24 inch), whichever is greater
Resolution	0.1 % of measuring range or 2 mm (0.08 inch), whichever is greater ³⁾
Temperature compensation	• -50 ... +150 °C (-58 ... +302 °F) • Integral temperature sensor in transducer • External TS-3 temperature sensor (optional) • Programmable fixed temperature values

Rated operating conditions

Installation conditions	
• Location	Indoor / outdoor
• Installation category	II
• Pollution degree	4
Ambient conditions	
• Ambient temperature (enclosure)	-20 ... +50 °C (-4 ... +122 °F)

Design

Weight	
• Wall mount	1.37 kg (3.02 lb)
• Panel mount	1.50 kg (3.31 lb)
Material (enclosure)	Polycarbonate
Degree of protection (enclosure)	
• Wall mount	IP65/Type 4X/NEMA 4X
• Panel mount	IP54/Type 3/NEMA 3
Cable	
• Transducer and mA output signal	2-core copper conductor, twisted, shielded, 300 Vrms, 0.82 mm ² (18 AWG), Belden 8700 or equivalent is acceptable
• Max. separation between transducer and transceiver	305 m (1 000 ft)

Displays and controls

	100 x 40 mm (4 x 1.6 inch) multi-block LCD with backlighting
Programming	Programming using handheld programmer or via PC with SIMATIC PDM software

Power supply⁴⁾

AC version	100 ... 230 V AC ± 15 %, 50/60 Hz, 30 VA (17 W)
DC version	12 ... 30 V DC (20 W)

Certificates and approvals

	• CE, RoHS, EAC, KCC ⁵⁾ • Lloyd's Register of Shipping • ABS Type Approval • FM, CSA, UL listed • CSA _{USC} Class I, Div 2, Groups A, B, C and D, Class II, Div 2, Groups F and G, Class III, EAC Ex (wall mount only) • MCE RTS Class 3 approved for Open Channel Flow
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Communication

	• RS 232 with Modbus RTU or ASCII via RJ-11 connector • RS 485 with Modbus RTU or ASCII via terminal blocks • Optional: SmartLink cards for PROFIBUS DP • DeviceNet
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¹⁾ All relays certified for use with equipment that falls in a state at or under the rated maximums of the relays

²⁾ This model is level control only, no open channel flow, differential level or volume conversion functions

³⁾ Program range is defined as the empty distance to the face of the transducer plus any range extension

⁴⁾ Maximum power consumption is listed

⁵⁾ EMC performance available upon request



EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement Continuous level measurement Ultrasonic controllers

HydroRanger 200

Selection and Ordering data		Article No.	Selection and Ordering data		Order code
Siemens HydroRanger 200 Ultrasonic level controller for up to six pumps that provides control, differential control and open channel flow monitoring. The HydroRanger 200 is also available as a level measurement controller only. Select option from number of measurement points options below. Click on the Article No. for the online configuration in the PIA Life Cycle Portal.		7ML5034-...	Further designs Please add "-Z" to Article No. and specify Order code(s).		
Mounting Wall mount, standard enclosure Wall mount, 4 entries, 4 M20 cable glands included Panel mount ¹⁾		1 2 3	Stainless steel tag (69 x 50 mm (2.71 x 1.97 inch)); Measuring-point number/identification (max. 27 characters); specify in plain text		Y15
Power supply 100 ... 230 V AC 12 ... 30 V DC		A B	Operating Instructions English German French Note: The Operating Instructions should be ordered as a separate item on the order. All literature is available to download for free, in a range of languages, at http://www.siemens.com/proceed (American English only).		Article No. 7ML19965FC03 7ML19965FC33 7ML19965FC11
Number of measurement points Single point model, 6 relays Dual point model, 6 relays Single point model, level only, 1 relay ²⁾ Single point model, level only, 3 relays ²⁾		A B C D	Accessories Handheld programmer Tag, stainless steel 12 x 45 mm (0.47 x 1.77 inch), one text line, suitable for enclosure Sunshield kit, 304 stainless steel USB to RS 232 adapter SITRANS RD100, loop powered display - see Chapter 7 SITRANS RD200, universal input display with Modbus conversion - see Chapter 7 SITRANS RD300, dual line display with totalizer and linearization curve and Modbus conversion - see Chapter 7 SITRANS RD500 web - universal remote monitoring solution for instrumentation - see Chapter 7		A5E36663512 7ML1830-1AC 7ML1830-1GA 7ML1830-6AK 7ML5741-... 7ML5740-... 7ML5744-... 7ML5750-...
Communication (SmartLink) Without module SmartLink PROFIBUS DP module SmartLink DeviceNet module See SmartLink product on page 4/348 for more information.		0 2 3	Spare parts Power Supply Board (100 ... 230 V AC) Power Supply Board (12 ... 30 V DC) MultiRanger 100/200/ HydroRanger 200 display, non-HMI/Siemens FI 01 - 2018 Removable terminal blocks		7ML1830-1MD 7ML1830-1ME 7ML1830-1MF A5E36624197
Approvals General Purpose CE, FM, CSA _{USC} , UL listed, IECM, EAC, KCC CSA Class I Div. 2, Groups A, B, C, and D; Class II, Div. 2, Groups F and G; Class III, EAC Ex (for wall mount applications only)		1 2			

¹⁾ Available with approval option 1 only

²⁾ This model is level control only, no open channel flow, differential level, or volume conversion functions



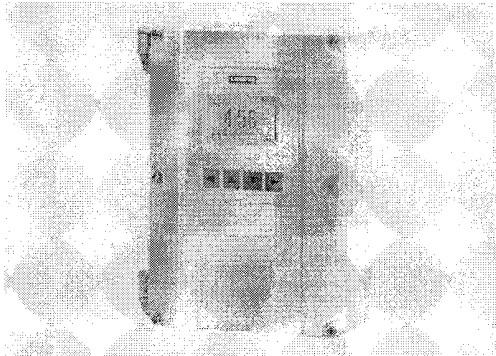


EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

HydroRanger 200 HMI

Overview



HydroRanger 200 HMI is an ultrasonic level controller for up to six pumps and provides control, differential control, and open channel flow monitoring.

Benefits

- Easy to use HMI display with local four-button programming, menu-driven parameters, and Wizard support for key applications
- English, German, French, Spanish, Chinese, Italian, Portuguese, and Russian texts on the HMI
- Removable terminal blocks for ease of wiring
- Monitors wet wells, weirs, and flumes
- Communication using built-in Modbus RTU via RS 485 and SIMATIC PDM configuration software
- Compatible with SmartLine system: PROFIBUS DP, PROFINET (cyclic access of process values only), DeviceNet, Modbus TCP/IP, and EtherNet/IP
- Single or dual point level monitoring
- 6 relays
- Auto False-Echo Suppression for fixed obstruction avoidance
- Anti-grease ring/tide mark buildup
- Differential amplifier transceiver for common mode noise rejection and improved signal-to-noise ratio
- Wall and panel mounting options

Application

For water authorities, municipal water, and wastewater plants, HydroRanger 200 HMI is an economical, low-maintenance solution delivering control efficiency and productivity needed to meet today's exacting standards. It offers single point monitoring with all models, and optional dual-point monitoring with 6 relay model. As well, it has digital communications with built-in Modbus RTU via RS 485.

The standard 6 relay HydroRanger 200 HMI will monitor open channel flow and features advanced relay alarming and pump control functions as well as volume conversion. It is compatible with SIMATIC PDM, allowing for PC configuration and set-up. Sonic Intelligence advanced echo-processing software provides increased reading reliability.

HydroRanger 200 HMI uses proven continuous ultrasonic echo ranging technology to monitor water and wastewater of any consistency up to 15 m (50 ft) in depth. Achievable resolution is 0.1 % with accuracy to 0.25 % of range. Unlike contacting devices, HydroRanger 200 HMI is immune to problems caused by suspended solids, harsh corrosives, grease or silt in the effluent, reducing downtime.

- Key Applications: wet wells, flumes/weirs, bar screen control

Technical specifications

Mode of Operation

Measuring principle	Ultrasonic level measurement
Measuring range	0.3 ... 15 m (1 ... 50 ft); transducer dependent
Measuring points	1 or 2

Input

Analog	0 ... 20 mA or 4 ... 20 mA, from alternative device, scalable (6 relay model)
Discrete	10 ... 50 V DC switching level Logical 0 ... 0.6 V DC Logical 1 = 10 ... 50 V DC max. 3 mA

Output

EchoMax transducer	44 kHz
Ultrasonic transducer	Compatible transducers: SFH and EchoMax series XPS-10, XPS-15/5E, and XHS-5
Relays ¹⁾	Rating 5 A at 250 V AC, non-inductive 4 SPST Form A2 SPDT Form
mA output	0 ... 20 mA or 4 ... 20 mA
Max. load	750 Ω isolated
Resolution	0.1 % of range

Accuracy

Error in measurement	0.25 % of range or 6 mm (0.24 inch), whichever is greater
Resolution	0.1 % of measuring range or 2 mm (0.08 inch), whichever is greater ²⁾
Temperature compensation	• 50 ... +150 °C (+58 ... +302 °F) • Integral temperature sensor in transducer • External TS-3 temperature sensor (optional) • Programmable fixed temperature values

Rated operating conditions

Installation conditions	
• Location	Indoor / outdoor
• Installation category	II
• Pollution degree	4
Ambient conditions	
• Ambient temperature (enclosure)	-20 ... +50 °C (-4 ... +122 °F)

Design

Weight	
• Wall mount	1.22 kg (2.68 lb)
• Panel mount	1.35 kg (2.97 lb)
Material (enclosure)	Polycarbonate
Degree of protection (enclosure)	
• Wall mount	IP65/type 4X/NEMA 4X
• Panel mount	IP54/type 3/NEMA 3
Cable	
• Transducer and mA output signal	2-core copper conductor, twisted, shielded, 500 Vrms, 0.62 mm ² (18 AWG), Belden B 763 or equivalent is acceptable
• Max. separation between transducer and transceiver	305 m (1 200 ft)

Displays and controls

	60 x 40 mm (2.36 x 1.57 inch) LCD 240 x 160 pixels resolution
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Power supply³⁾

AC version	100 ... 230 V AC $\pm$ 15 %, 50/60 Hz, 35 VA (17 W)
DC version	12 ... 30 V DC (20 W)



EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement Continuous level measurement Ultrasonic controllers

HydroRanger 200 HMI

Certificates and approvals

- CE, RoHS, EAC, KCC¹⁾
- FM, CSA^{UL}, UL listed
- CSA^{UL} Class I, Div. 2, Groups A, B, C and D, Class II, Div. 2, Groups F and G, Class III (wall mount only)
- MCHRTS Class 2 approved for Open Channel Flow

Communication

- RS 232 with Modbus RTU or ASCII via RJ-11 connector
- RS 485 with Modbus RTU or ASCII via terminal blocks
- Optional: SmartLink cards for:
 - PROFIBUS DP-V1, PROFINET (cyclic access of process values only)
 - DeviceNet, Modbus TCP/IP, EtherNet/IP

¹⁾ All relays certified for use with equipment that fails in a safe state or under the rated maximums of the relays.

²⁾ Program range is defined as the empty distance to the face of the transducer plus any range extension.

³⁾ Maximum power consumption is listed.

⁴⁾ EMC performance available upon request.

Selection and Ordering data

Article No.

Siemens HydroRanger 200 HMI

Ultrasonic level controller for up to six pumps that provides control, differential control and open channel flow monitoring.

Click on the Article No. for the online configuration in the PIA Life Cycle Portal.

Mounting, enclosure design

- 4 button HMI, Wall mount, standard enclosure
- 4 button HMI, Wall mount, 4 entries, 4 M20 cable glands included
- 4 button HMI, Panel Mount

Input voltage

- 100 ... 230 V AC
- 12 ... 30 V DC

Number of measurement points

- Single point model, 6 relays
- Dual point model, 6 relays

Communication (SmartLink)

- Without module
- SmartLink PROFIBUS DP-V0 module
- SmartLink DeviceNet module

SmartLink PROFIBUS DP-V1 module

SmartLink PROFINET module²⁾

SmartLink EtherNet/IP module

SmartLink Modbus TCP/IP module

See SmartLink product page 4/348 for more information

Approvals

- General Purpose CE, FM, CSA^{UL}, UL listed, RoHS, EAC, KCC
- CSA Class I, Div. 2, Groups A, B, C, and D, Class II, Div. 2, Groups F and G, Class III¹⁾

¹⁾ Available with Mounting/Enclosure design options 4 or 5

²⁾ SmartLink PROFINET module is certified per standard V2.2.4.

Selection and Ordering data

Order code

Further designs

Please add "Z" to Article No. and specify Order code(s).

Stainless steel tag [69 x 50 mm (2.71" x 1.97 inch)]:
Measuring-point number/identification (max. 27 characters), specify in plain text

Y16

Test Certificate: Manufacturer's test certificate M to DIN 55350, Part 16 and to ISO 9000

C11

Operating instructions

English

A5E386281317

German

A5E386281391

All literature is available to download for free, in a range of languages, at <http://www.siemens.com/productliterature> in the English 25 orientation on

Accessories

Tag, stainless steel 12 x 45 mm (0.47" x 1.77 inch), one text line, suitable for enclosure

Article No.

Sunshield kit, 304 stainless steel

7ML1830-1GA

USB to RS 232 adapter

7ML1830-6AK

RS 232 to RJ11 COMMS adapter

7ML1830-1MC

SITRANS RD100, loop powered display - see Chapter 7

7ML5741...

SITRANS RD200, universal input display with Modbus conversion - see Chapter 7

7ML5740...

SITRANS RD300, dual line display with totalizer and linearization curve and Modbus conversion - see Chapter 7

7ML5744...

SITRANS RD500 web, universal remote monitoring solution for instrumentation - see Chapter 7

7ML5750...

Spare parts

Power Supply Board (100 ... 230 V AC)

7ML1830-1MD

Power Supply Board (12 ... 30 V DC)

7ML1830-1ME

Removable terminal blocks

A5E38624197

Spare lid with HMI, MultiRanger 200 HMI/ HydroRanger 200 HMI, wall

A5E35776738

Spare lid with HMI, MultiRanger 200 HMI/ HydroRanger 200 HMI, panel

A5E35776740

SmartLink DeviceNet module

7ML1830-1HT

SmartLink PROFIBUS DP-V1 module

A5E35776741

SmartLink PROFINET IO module

7ML1830-1PM

SmartLink Modbus TCP/IP, EtherNet/IP module

7ML1830-1PN



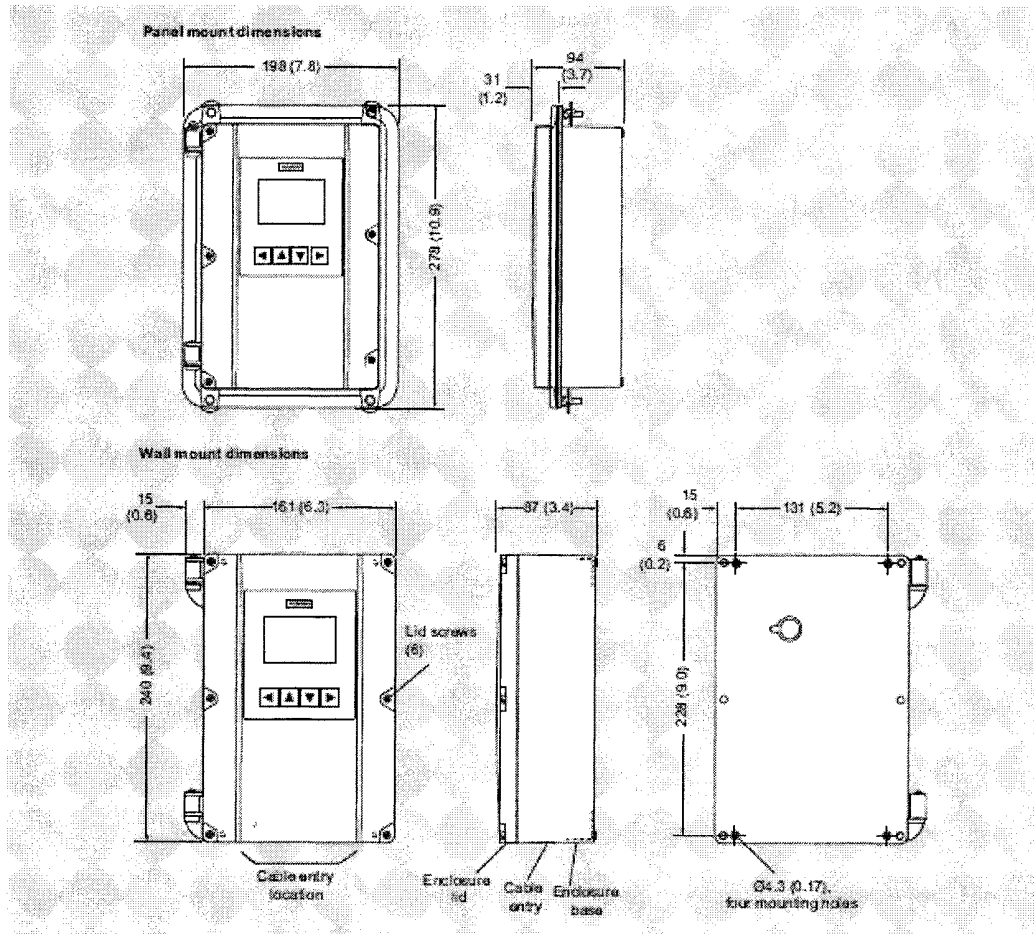
EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement
Continuous level measurement
Ultrasonic controllers

HydroRanger 200 HMI

Dimensional drawings



HydroRanger 200 HMI, dimensions in mm (inch)



EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

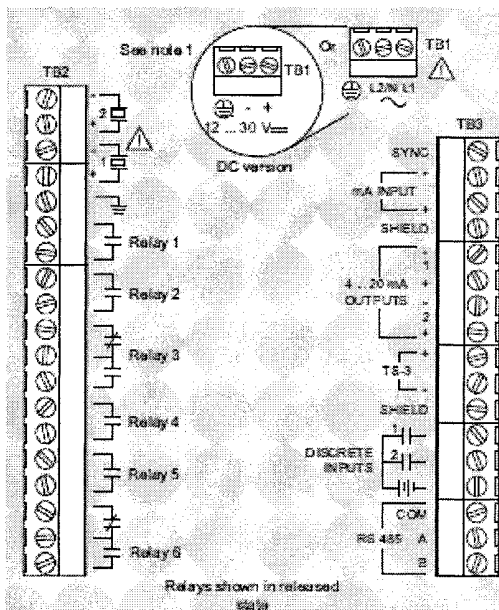
CITY OF PHOENIX

Level Measurement

Continuous level measurement
Ultrasonic controllers

HydroRanger 200 HMI

Circuit diagrams



Note:

1. Use 2-core copper wire, twisted, with shield, for expansion up to 365 m (1 200 ft). Route cable in grounded metal conduit, separate from other cables.
2. Verify that all system components are installed in accordance with instructions.
3. Connect all cable shields to the HydroRanger shield connections. Avoid differential ground potentials by not connecting cable shields to ground (earth) anywhere else.
4. Keep exposed conductors on shielded cables as short as possible to reduce noise on the line caused by stray transmissions and noise pickup.

HydroRanger 200 HMI connections



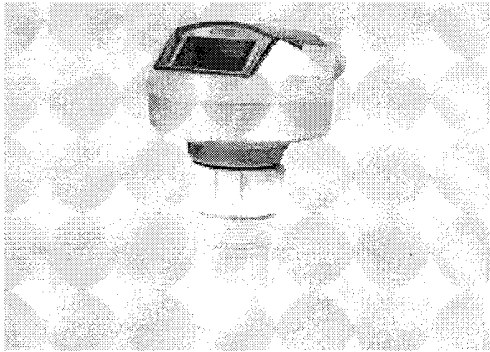
EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement Continuous level measurement - Ultrasonic transmitters

SITRANS Probe LU

Overview



SITRANS Probe LU is a 2-wire loop powered ultrasonic transmitter for level, volume and flow monitoring of liquids in open channels, storage vessels, and simple process vessels.

Benefits

- Continuous level measurement up to 12 m (40 ft) range
- Easy installation and simple startup
- Programming using infrared Intrinsic Safe handheld programmer, SIMATIC PDM or HART Communicator
- Communication using HART or PROFIBUS PA
- ETFE or PVDF transducers for chemical compatibility
- Sonic Intelligence signal processing
- Auto False-Echo Suppression for fixed obstruction avoidance
- Level to volume or level to flow conversion

Application

The SITRANS Probe LU is ideal for level monitoring in the water and wastewater industry, chemical storage vessels, and small bulk hoppers.

The range of SITRANS Probe LU is 6 or 12 m (20 or 40 ft). Using Sonic Intelligence, Auto False Echo Suppression for fixed obstruction avoidance, and accuracy of 0.15 % of range or 6 mm (0.25 inch), the Probe LU provides unmatched reliability.

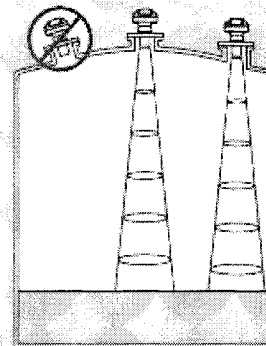
The Probe LU offers two communications options: HART or PROFIBUS PA (Profile version 3.0, Class B).

The transducer on the Probe LU is available as ETFE or PVDF to suit the chemical conditions of your application. As well, for applications with varying material and process temperatures, the Probe LU incorporates an internal temperature sensor to compensate for temperature changes.

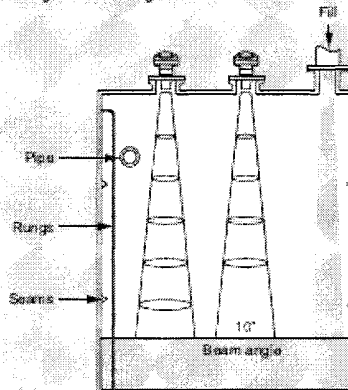
- Key Applications: chemical storage vessels, filter beds, liquid storage vessels

Configuration

Parabolic mounting



Flat mounting and beam angle



SITRANS Probe LU mounting



EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement

Continuous level measurement - Ultrasonic transmitters

SITRANS Probe LU

Technical specifications

Mode of operation		Process connection	
Measuring principle	Ultrasonic level measurement	Threaded connection	2" NPT (Taper), ANSI/ASME B1.20.1 R 2" (RSPPT), EN 10226 or G 2" (RSPPT), EN ISO 228-1
Typical application	Level measurement in storage vessels and simple process vessels	Flange connection	3 inch (80 mm) universal flange
Inputs		Other connection	FMS 200 mounting bracket (see page 4/179) or customer supplied mount
Measuring range		Display and Controls	
• 6 m (20 ft) model	0.25 ... 6 m (10 inch ... 20 ft)	Interface	Local LCD display with bar graph Remote: Available via HART or PROFIBUS PA
• 12 m (40 ft) model	0.25 ... 12 m (10 inch ... 40 ft)	Configuration	Using Siemens SIMATIC PDM (PC) or HART handheld communicator or Siemens infrared handheld programmer
Frequency	54 kHz	Memory	Non volatile EEPROM
Outputs		Power supply	
mAHART		4 ... 20 mAHART	Nominal 24 V DC with 550 Ω maximum; maximum 30 V DC 4 ... 20 mA
• Range	4 ... 20 mA	PROFIBUS PA	12, 13, 15, or 20 mA depending on programming (General Purpose or Intrinsically Safe version)
• Accuracy	± 0.02 mA		per IEC 61158-2
PROFIBUS PA	Profile 3, Class B	Certificates and Approvals	
Performance		General	CSA-USC, FM, CE, IECM
Resolution	± 3 mm (0.12 inch)	Marine (only applies to HART communication option)	• Lloyd's Register of Shipping • ABS Type Approval
Accuracy	$\pm$ the greater of 0.15 % of range or 6 mm (0.24 inch)	Hazardous	• Intrinsically Safe (Europe) • Intrinsically Safe (USA/Canada; • Intrinsically Safe (International) • Intrinsically Safe (Brazil) • Non-incendive (USA)
Repeatability	± 3 mm (0.12 inch)		ATEX II 1G Ex ia IIC T4 Ga CSA/IM, Class I, Div. 1, Groups A, B, C, D, Class II, Div. 1, Groups E, F, G, Class III T4 SIR 13.0006X Ex ia IIC T4 Ga INMETRO Ex ia IIC T4 Ga FM Class I, Div. 2, Groups A, B, C, D T4
Blanking distance	0.25 m (10 inch)	Handheld Programmer	
Update time	≤ 5 s	Intrinsically Safe Siemens handheld programmer	Infrared receiver
• 420 mAHART version	≤ 5 s at 4 mA	• Approvals for handheld programmer	ATEX II 1GD / IECEx SIR 09.0073 Ex ia IIC T4 Ga Ex ia IGD 20 T 135 °C FM/CSA Class I, II, III, Div. 1, Groups A, B, C, D, E, F, G T6
• PROFIBUS version	≤ 4 s at 15 mA current loop	Ambient temperature	-20 ... 50 °C (-5 ... 122 °F)
Temperature compensation	Built-in to compensate over temperature range	Interface	Proprietary infrared pulse signal
Beam angle	10°	Power	3 V lithium battery (non-replaceable)
Rated operating conditions			
Ambient conditions			
• Location	Indoor/outdoor		
• Ambient temperature	-40 ... +80 °C (-40 ... +176 °F)		
• Relative humidity/dust protection	Suitable for outdoor		
• Installation category	I		
• Pollution degree	4		
Medium conditions			
• Temperature at flange or threads	-40 ... +85 °C (-40 ... +185 °F)		
• Pressure (vessel)	0.5 bar g (7.25 psi g)		
Design			
Material (enclosure)	PBT (Polybutylene Terephthalate)		
Degree of protection	Type 4X/NEMA 4X, Type 6/NEMA 6/PG/PP68 enclosure		
Weight	2.1 kg (4.6 lb)		
Cable inlet	2 x M20 x 1.5 cable gland or 2 x 3/2" NPT thread or 1 x M20 x 1.5 and 1 x 1/2" NPT		
Material (transducer)	Buna N seal with ETFE (Ethylene Tetrafluoroethylene) or PVDF (Polyvinylidene Fluoride)		



EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

		Level Measurement	
		Continuous level measurement - Ultrasonic transmitters	
		SIEMENS Probe LU	
Selection and Ordering data		Article No.	Order code
SITRANS Probe LU 2-wire, loop powered ultrasonic transmitter for level, volume and flow monitoring of liquids in open channels, storage vessels, and simple process vessels.		7ML5221-	
Click on the Article No. for the online configuration in the PIA Life Cycle Portal.			
Enclosure/Cable Inlet			
Plastic (PBT), 1 x M20 x 1.5 and 1 x 1/2" NPT (no cable glands supplied)	0		
Plastic (PBT), 2 x M20 x 1.5 (includes 1 general purpose cable gland; 7ML1830-1AM)	1		
Plastic (PBT), 2 x 1/2" NPT (no cable glands supplied)	2		
Range/Transducer material			
6 m (20 ft), ETFE	A		
6 m (20 ft), PVDF Copolymer	B		
12 m (40 ft), ETFE	C		
12 m (40 ft), PVDF Copolymer	D		
Process connection			
2" NPT (Taper), ANSI/ASME B1.20.1	A		
R 2" (BSPF), EN 10226	B		
G 2" (BSPF), EN ISO 228-1	C		
Communication/Output			
4 ... 20 mA, HART	1		
PROFIBUS PA	2		
Approvals			
General Purpose, FM, CSA, IEC, CE, RCM, KCC	1		
Non-incendive, FM Class I, Div. 2, Groups A, B, C, D (5)	4		
Intrinsically Safe, CSA/IEC Class I, Div. 1, Groups A, B, C, D, Class II, Div. 1, Groups E, F, G, Class III (4)	5		
Intrinsically Safe ATEX, IECEx/INMETRO Ex is IIC T4 Gc, RCM, KCC ¹⁾	6		
Intrinsically Safe ATEX, IECEx/INMETRO Ex is IIC T4 Gc, RCM, KCC ²⁾	7		
Intrinsically safe, CSA/IEC Class I, Div. 1, Groups A, B, C, D, Class II, Div. 1, Groups E, F, G, Class III (4)	8		
¹⁾ Available with Enclosure/Cable Inlet option 2 only.			
²⁾ Available with communication option 2 only.			
³⁾ Available with communication option 1 only.			
Further designs			
Please add "-Z" to Article No. and specify Order code(s)			
Stainless steel tag (60 x 50 mm (2.71 x 1.97 inch), Measuring point number/identification (max. 27 characters) specify in plain text			Y15
Operating instructions for HART tool device		Article No.	
English			A5E32337695
Note: The Operating instructions should be ordered as a separate item on the order.			
All literature is available to download for free, in a range of languages, at http://www.siemens.com/process-instrumentation/documentation			
Accessories			
Handheld programmer, Intrinsically Safe, EEx ia		7ML5830-2AH	
Handheld programmer, General Purpose approvals		A5E36563512	
Handheld programmer, Infrared, Intrinsically Safe, PROFIBUS PA		7ML5830-2AJ	
HART modem/USB (for use with a PC and SIMATIC PDM)		7MF4997-1DB	
2" NPT locknut, plastic		7ML1830-1DT	
2" BSP locknut, plastic		7ML1830-1DQ	
3" ASME, DN 65 PN 10, JIS 10K 3B ETFE Flange adapter for 2" NPT		7ML1830-1BT	
3" ASME, DN 65 PN 10, JIS 10K 3B ETFE Flange adapter for 2" BSP		7ML1830-1BU	
One General Purpose polymeric cable gland M20 x 1.5, rated for -20 ... +60 °C (-4 ... +176 °F)		7ML1930-1AM	
One metallic cable gland M20 x 1.5, rated -20 ... +60 °C (-4 ... +176 °F) for General Purpose or ATEX EEx ia installations (available for HART only)		7ML1930-1AP	
One metallic cable gland M20 x 1.5, rated -20 ... +60 °C (-4 ... +176 °F) with integrated shield connection (available for PROFIBUS PA)		7ML1930-1AQ	
Universal box bracket, FMS-200		7ML1830-1BK	
Probe LU rock guard and sunshield		7ML1930-1GH	
SITRANS RD100, loop powered display - see Chapter 7		7ML5741-...	
SITRANS RD200, universal input display with Modbus conversion - see Chapter 7		7ML5740-...	
SITRANS RD300, dual line display with totalizer and linearization curve and Modbus conversion - see Chapter 7		7ML5744-...	
SITRANS RD500 web, universal remote monitoring solution for instrumentation - see Chapter 7		7ML5750-...	
For applicable back up point level switch see point level measurement section.			
Spare Parts			
Plastic tag		7ML1830-1KB	



EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

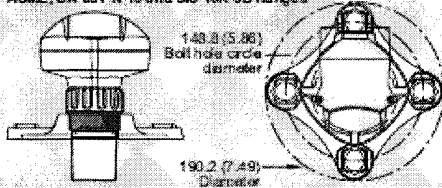
Level Measurement

Continuous level measurement - Ultrasonic transmitters

SITRANS Probe LU

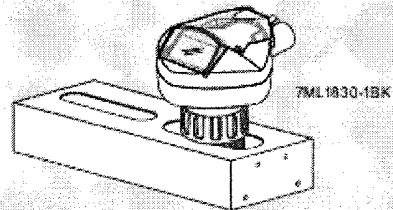
Options

Flange adapter for mating 2" NPT or 2" BSP process connections to 3" ASME, DN 65 PN 10 and JIS 10K 3B flanges



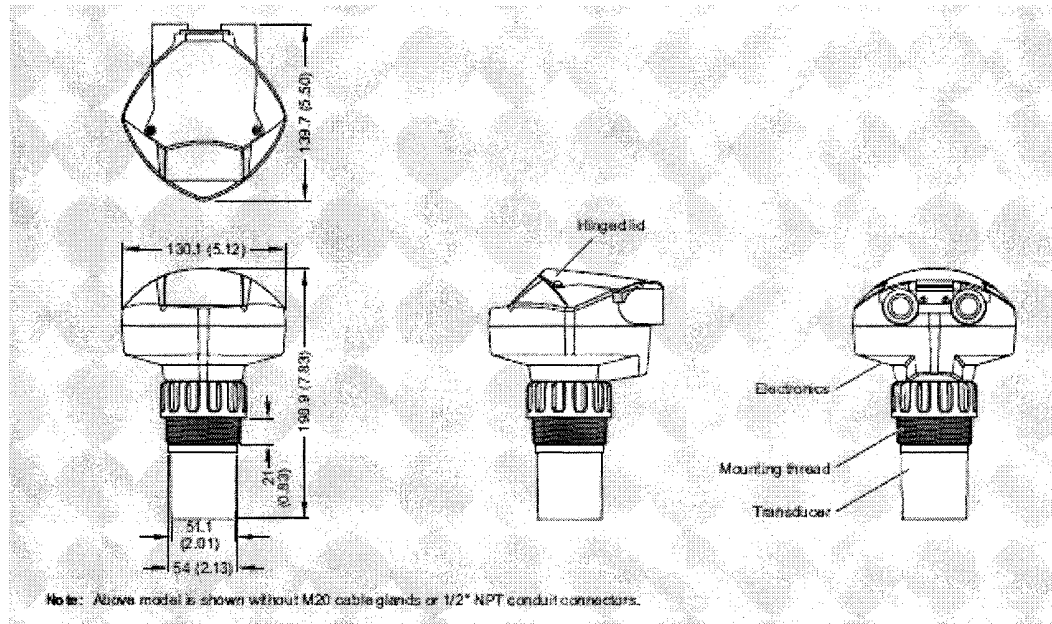
SITRANS Probe LU optional flange adapter, dimensions in mm (inch)

SITRANS Probe LU with FMS 200 universal box bracket



SITRANS Probe LU with optional mounting bracket

Dimensional drawings



SITRANS Probe LU, dimensions in mm (inch)



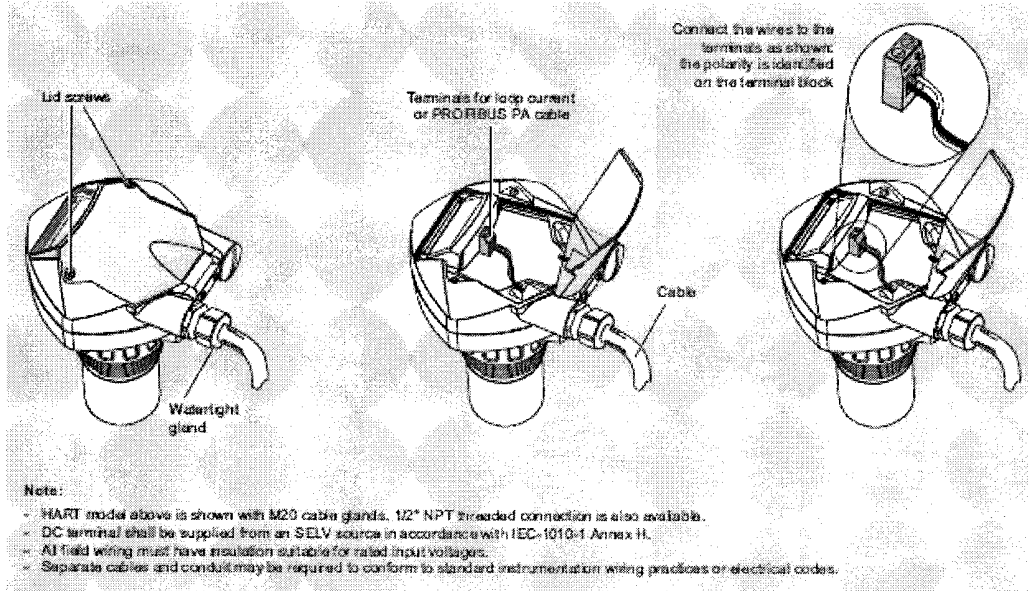
EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level measurement Continuous level measurement - Ultrasonic transmitters

SITRANS Probe LU

Schematics



SITRANS Probe LU connections



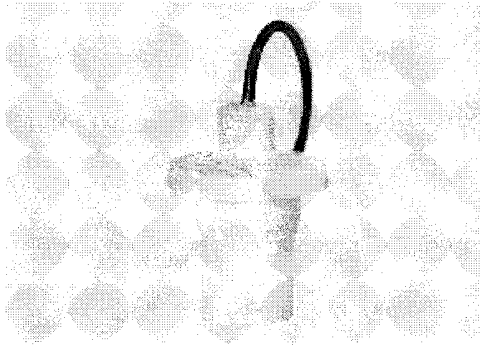
EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement Continuous level measurement Ultrasonic transducers

ST-H

Overview



ST-H transducers use ultrasonic technology to measure level in chemical storage and liquid tanks.

Benefits

- Can be mounted on a narrow standpipe
- Immune to corrosive and harsh environments
- Integral temperature sensor

Application

The narrow design of the ST-H allows the transducer to be mounted on a narrow standpipe. When mounted correctly, it is completely protected from the process and can even be used in harsh, corrosive environments.

During operation, the ultrasonic transducer emits acoustic pulses in a narrow beam perpendicular to the transducer face. The level transceiver measures the propagation time between pulse emission and reception of the echo to calculate the distance from the transducer to the material. Variations in sound velocity due to changes in temperature within the permissible range are automatically compensated by the integral temperature sensor.

- Key Applications: chemical storage, liquid tanks

Technical specifications

Mode of operation	
Measuring principle	Ultrasonic transducer
Input	
Measuring range	0.3 ... 10 m (1 ... 33 ft)
Output	
Frequency	44 kHz
Beam angle	12°
Accuracy	
Temperature compensation	Compensated by integral temperature sensor
Rated operating conditions	
Pressure	Normal atmospheric pressure
Ambient conditions	
Ambient temperature	20 ... +60 °C (-5 ... +140 °F) (ATEX approved model) 40 ... +73 °C (-40 ... +163 °F) (CSA/IMC approved model)
Design	
Weight ¹⁾	1.4 kg (3 lb)
Material (enclosure)	Base and lid made of ETFE or PVDF (epoxy filled joint) ²⁾
Process connection	2" NPT (Taper), ANSI/ASME B1.20.1, R 2" (BSPT), EN 10226 or G 2" (BSPP), EN ISO 228-1
Degree of protection	IP68
Cable connection	2-core shielded/twisted, 0.519 mm ² (20 AWG), PVC sheath
Cable (max. length)	300 m (1 000 ft) with RG 62 A/U coaxial cable
Options	
Flange adapter	3" Universal (fits DN 65, PN 10 and 3" ASME)
Certificates and approvals	
CE, CSA Class I, II, III, Div. 1, Groups A, B, C, D, E, F, G T3 (ETFE only), FM Class I, II, Div. 1, Groups C, D, E, F, G T4A, ATEX II 2G / IIMETRO I Ex mb IIC T5 Gb, IECEx, KCC	

¹⁾ Approximate shipping weight of transducer with standard cable length

²⁾ When measuring chemicals, check compatibility of ETFE or PVDF and epoxy, or mount joint external to process



EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement Continuous level measurement Ultrasonic transducers

Selection and Ordering data	Article No.	Selection and Ordering data	Order code
EchoMax ST-H ultrasonic transducer Level measurement in chemical storage and liquid tanks. The narrow design of the ST-H allows the transducer to be mounted on a 2 inch standpipe. Measuring range: min. 0.3 m (1 ft), max. 10 m (33 ft). Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	7ML1100-1BA0	Further designs Please add "-Z" to Article No. and specify Order code(s). Acrylic coated, stainless steel tag (13 x 45 mm (0.5 x 1.75 inch)): Measuring-point number/identification (max. 16 characters) specify in plain text	Y17
Process connection ETFE, 2" NPT (Taper), ANSI/ASME B1.20.1) ETFE, R 2" (BSPT), EN 10226) ETFE, G 2" (BSPP), EN ISO 228-1) PVDF copolymer, 2" NPT (Taper), ANSI/ASME B1.20.1) PVDF copolymer, R 2" (BSPT), EN 10226) PVDF copolymer, G 2" (BSPP), EN ISO 228-1)	0 1 2 3 4 5	Accessories Universal box bracket, mounting kit 3" ASME, DN 65 PN 10, JIS 10K 3B ETFE flange adapter for 2" NPT 3" ASME, DN 65 PN 10, JIS 10K 3B ETFE flange adapter for 2" BSPT Easy Amer 2, aluminum: NPT with 3/4" x 1" PVC coupling Easy Amer 2, aluminum with M20 adapter and 1" and 1 1/2" BSPT aluminum couplings Easy Amer 304, NPT with 1" stainless steel coupling Easy Amer 304, with M20 adapter and 1" and 1 1/2" BSPT 304 stainless steel couplings Plastic adapter 1" NPT Plastic adapter 1" NPT/M20	Article No. 7ML1830-1BK 7ML1830-1BT 7ML1830-1BU 7ML1830-1AQ 7ML1830-1AX 7ML1830-1AU 7ML1830-1GN 7ML1830-1FX 7ML1830-1EF
Cable length 5 m (16.40 ft) 10 m (32.81 ft) 30 m (98.43 ft) 50 m (164.04 ft) 100 m (328.08 ft)	A B C D E		
Approvals CE, FM Class I, II, Div. 1, Groups C,D,E,F,G T4A ²⁾ ATEX 2G / INMETRO Ex mb IIC T5 Gb, RCM, KCC CSA Class I, II, Div. 1, Groups A,B,C,D,E,F,G T3 ¹⁾ CE, ATEX 2G / INMETRO Ex mb IIC T5 Gb, RCM, KCC ²⁾	2 3 4		
Operating Instructions Multi-language Note: The Operating Instructions should be ordered as a separate line item on the order. All literature is available to download for free, in a range of languages, at http://www.siemens.com/press/instrumentation/documentation	Article No. A5E43390658		

¹⁾ Available with Process connection options 0 ... 2 only

²⁾ Available with Process connection options 3 ... 5 only

³⁾ Not suitable for Ketone, Hexane, Ester or Ethyl Acetate atmospheres



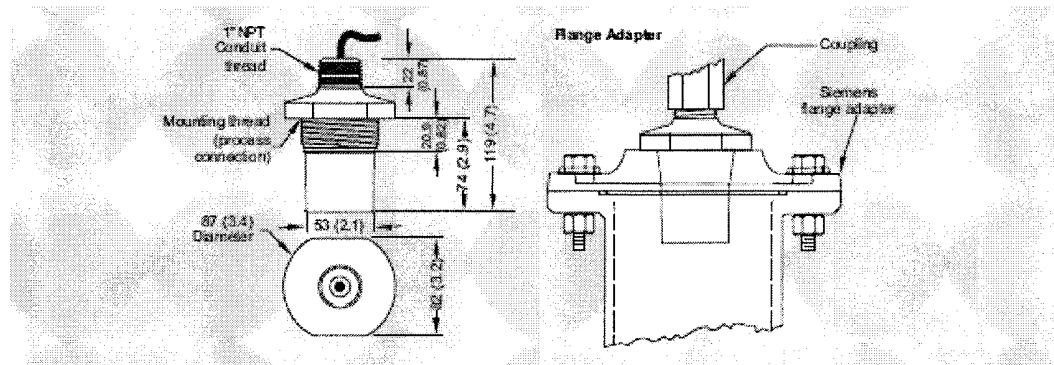
EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement Continuous level measurement Ultrasonic transducers

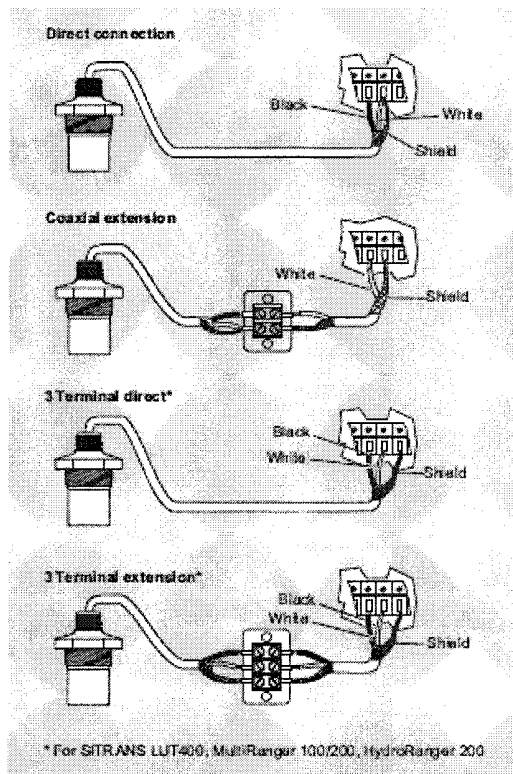
ST-H

Dimensional drawings



ST-H ultrasonic transducer, dimensions in mm (inch)

Circuit diagrams



ST-H ultrasonic transducer connections



EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement Continuous level measurement Ultrasonic transducers

Overview



EchoMax XPS transducers use ultrasonic technology to measure level in a wide range of liquids and solids.

Benefits

- Integral temperature compensation
- Low ringing effect reduces blanking distance
- Optional foam facing for dusty applications
- Self-cleaning and low-maintenance
- Chemically resistant
- Hermetically sealed

Application

XPS transducers can be fully immersed, are resistant to steam and corrosive chemicals, and can be installed without flanges.

The XPS series offers versions for various measuring ranges up to 30 m (100 ft) and up to a max. temperature of 95 °C (203 °F).

During operation, the EchoMax transducers emit acoustic pulses in a narrow beam. The level monitor measures the propagation time between pulse emission and its reflection (echo) to calculate the distance.



EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement Continuous level measurement Ultrasonic transducers

EchoMax XPS

Technical specifications

Input	XPS-10	XPS-15 (standard and F models)	XPS-30
Measuring range ¹⁾	0.3 ... 10 m (1 ... 33 ft)	Standard: 0.3 ... 15 m (1 ... 50 ft) XPS-15F: 0.45 ... 15 m (1.5 ... 50 ft)	0.6 ... 30 m (2 ... 100 ft)
Output			
Frequency	44 kHz	44 kHz	30 kHz
Beam angle	12°	6°	6°
Environmental			
Location	Indoors/outdoors		
Ambient temperature	-40 ... +95 °C (-40 ... +203 °F)	Standard: -40 ... +95 °C (-40 ... +203 °F) XPS-15F: -20 ... +95 °C (-4 ... +203 °F)	-40 ... +95 °C (-40 ... +203 °F)
Pollution degree	4		
Pressure	6 bar g (120 psi g) Flanged: 0.5 bar g (7.25 psi g)	6 bar g (120 psi g) Flanged: 0.5 bar g (7.25 psi g)	0.5 bar g (7.25 psi g) Flanged: 0.5 bar g (7.25 psi g)
Design			
Weight	0.8 kg (1.8 lb)	1.3 kg (2.8 lb) Flanged: 2 kg (4.4 lb)	4.3 kg (9.5 lb)
Power supply	Operation of transducer only with approved Siemens controllers		
Material	Standard: PVDF Flanged: PVDF with CPVC flange Option: PTFE face with CPVC flange	Standard: PVDF Flanged: PVDF with CPVC flange Option: PTFE face with CPVC flange	Standard: PVDF Flanged: PVDF with CPVC flange Option: PTFE face with CPVC flange
Color	Blue	Standard: Blue XPS-15F: Gray	Blue
Process connection	1" NPT or 1" BSPF	Standard: 1" NPT or 1" BSPF XPS-15F: 1" NPT	1.5" universal thread (NPT or BSPF)
Degree of protection	IP66/68	IP66/68	IP66/68
Cable	2-wire twisted pair/braided and foil shielded 0.5 mm² (20 AWG) PVC jacket		
Separation	Max. 365 m (1 200 ft)		
Certificates and approvals	Standard: CE, CSA, FM, ATEX, IECEx	Standard: CE, CSA, FM, ATEX, IECEx XPS-15F: FM Class I, Div. 1, Groups A, B, C, and D, Class II Div. 1, Groups E, F, and G, Class III	CE, CSA, FM, ATEX, IECEx

¹⁾ Max range is rated for measurement of liquids; recommended range for solids is 50 % of maximum. Application conditions such as extreme dust or angle of repose may reduce the usable maximum range. Consult a local sales person for more details.



EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement Continuous level measurement Ultrasonic transducers

EchoMax XPS

Selection and Ordering data		Article No.	Selection and Ordering data		Order code
EchoMax XPS-10 ultrasonic transducer		7ML1119-	Further designs		
High-frequency ultrasonic transducer designed for a wide variety of liquid and solid applications, for use with approved controllers. Includes integral temperature sensor.			Please add "-Z" to Article No. and specify Order code(s).		
Measuring range: min. 0.3 m, max. 10 m			Stainless steel tag (69 x 50 mm (2.71 x 1.97 inch)); Measuring point number/identification (max. 27 characters) specify in plain text.		Y15
Click on the Article No. for the online configuration in the PIA Life Cycle Portal.			Operating Instructions		Article No.
Mounting thread and facing			Multi-language		A5E43390588
1" NPT (Taper), ANSI/ASME B 1.20.1		0	Note: The Operating Instructions should be ordered as a separate line item on the order.		
1" NPT (Taper), ANSI/ASME B 1.20.1		1	All literature is available to download for free, in a range of languages, at http://www.siemens.com/processautomation .		
with foam facing ¹⁾			Accessories		
1" NPT (Taper), ANSI/ASME B 1.20.1		2	Tag, stainless steel with hole, 12 x 45 mm (0.47 x 1.77 inch), one text line for fastening on sensors		7ML1830-1BJ
with PTFE facing ²⁾			Submergence shield kit		7ML1830-1BH
R 1" (BSPT), EN 10226		3	Easy Aimer 2, aluminum, NPT with 3/4" x 1" PVC coupling		7ML1830-1AQ
R 1" (BSPT), EN 10226 with foam facing ¹⁾		4	Easy Aimer 2, aluminum with M20 adapter and 1" and 1 1/2" BSPT aluminum couplings		7ML1830-1AX
R 1" (BSPT), EN 10226 with PTFE facing ²⁾		5	Easy Aimer 304, NPT with 1" stainless steel coupling		7ML1830-1AU
Cable length			Easy Aimer 304, with M20 adapter and 1" and 1 1/2" BSPT 304 stainless steel couplings		7ML1830-1GN
5 m (16.40 ft)		B	Universal box bracket, mounting kit		7ML1830-1BK
10 m (32.81 ft)		C	Channel bracket, wall mount		7ML1830-1BL
30 m (98.43 ft)		E	Extended channel bracket, wall mount		7ML1830-1BM
50 m (164.04 ft)		F	Channel bracket, floor mount		7ML1830-1BN
100 m (328.08 ft)		K	Extended channel bracket, floor mount		7ML1830-1BP
Mounting flange			Bridge channel bracket, floor mount (see Mounting Brackets on page 4/188 for more information)		7ML1830-1BQ
None			1" NPT locknut, plastic		7ML1830-1DS
3" ASME, 150 lb, flat faced		A	1" BSP locknut, plastic		7ML1830-1DR
4" ASME, 150 lb, flat faced		C	1" BSP locknut, flanged, plastic		7ML1830-1DN
6" ASME, 150 lb, flat faced		D	Plastic adapter 1" BSP - 20 mm		7ML1830-1EA
6" ASME, 150 lb, flat faced		E	Plastic adapter 1" NPT		7ML1830-1FX
DN 80, PN 10/16, Type A, flat faced		F	Plastic adapter 1" NPT/M20		7ML1830-1EF
DN 100, PN 10/16, Type A, flat faced		G			
DN 150, PN 10/16, Type A, flat faced		J			
JIS 10K3B Style		L			
JIS 10K4B Style		M			
JIS 10K6B Style		P			
(Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5 or EN 1092-1, or JIS B 2220 standard.)		R			
Approvals					
ATEX 2GD Ex mb IIC T4 Gb, Ex tb IIC T135 °C Db;		3			
IECEX SIR 13.0009X Ex mb IIC T4 Gb, Ex tb IIC T135 °C Db; FM Class I, Div. 2, Groups A, B, C, D; Class II, Div. 1, Groups E, F, G; Class III					
CSA Class I, Div. 1, Groups A, B, C, D, Class II, Div. 1, Groups E, F, G, Class III ³⁾		4			

¹⁾ Not available with flanged versions

²⁾ Available with flanged versions only

³⁾ Valid with mounting thread and facing options 0 ... 2 only



EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement Continuous level measurement Ultrasonic transducers

EchoMax XPS

Selection and Ordering data

EchoMax XPS-15 ultrasonic transducer

High-frequency ultrasonic transducer designed for a wide variety of liquid and solid applications, for use with approved controllers. Includes integral temperature sensor.

Measuring range: min. 0.3 m, max. 15 m

Click on the Article No. for the online configuration in the PIA Life Cycle Portal.

Mounting thread and facing

1" NPT (Taper), ANSI/ASME B1.20.1

1" NPT (Taper), ANSI/ASME B1.20.1

with foam facing¹⁾

1" NPT (Taper), ANSI/ASME B1.20.1

with PTFE facing²⁾

R 1" (BSPT), EN 10226

R 1" (BSPT), EN 10226 with foam facing¹⁾

R 1" (BSPT), EN 10226 with PTFE facing²⁾

Cable length

5 m (16.40 ft)

10 m (32.81 ft)

30 m (98.43 ft)

50 m (164.04 ft)

100 m (328.08 ft)

Mounting flange

None

6" ASME, 150 lb, flat faced

8" ASME, 150 lb, flat faced

DN 150, PN 10/16, Type A, flat faced

DN 200, PN 10, Type A, flat faced

JIS 10K 63

JIS 10K 63

(Note: Flange boring patterns and facings dimensionally correspond to the applicable ASME B16.5 or EN 1092-1, or JIS B 2220 standard.)

Approvals

ATEX 2GD Ex mb IIC T4 Gb, Ex tb IIC T135 °C Db;

IECEX SIR 13.0009X Ex mb IIC T4 Gb, Ex tb IIC T135 °C Db; FM Class I, Div. 2, Groups A, B, C, D;

Class II, Div. 1, Groups E, F, G; Class III

CSA Class I, Div. 1, Groups A, B, C, D, Class II,

Div. 1, Groups E, F, G, Class III³⁾

¹⁾ Not available with flanged versions

²⁾ Available with flanged versions only

³⁾ Available with mounting options 0 ... 2 only

Article No.

7ML1118-

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Selection and Ordering data

Further designs

Please add "-Z" to Article No. and specify Order code(s).

Stainless steel tag [69 x 50 mm (2.71 x 1.97 inch)];

Measuring point number/identification

(max. 27 characters) specify in plain text

Operating instructions

Multi-language

Note: The Operating Instructions should be ordered as a separate line item on the order

A literature is available to download for free, in a range of languages, at <http://www.siemens.com/proceedingliterature> or <http://www.siemens.com>

Accessories

Tag, stainless steel with hole, 12 x 45 mm (0.47 x 1.77 inch), one text line for fastening on sensors

Submergence shield kit

Universal box bracket, mounting kit

Channel bracket, wall mount

Extended channel bracket, wall mount

Channel bracket, floor mount

Extended channel bracket, floor mount

Bridge channel bracket, floor mount

(see Mounting Brackets on page 4/166 for more information)

1" NPT locknut, plastic

1" BSP locknut, plastic

1" BSP locknut, flanged, plastic

Easy Amer 2, aluminum, NPT with 3/4" x 1" PVC coupling

Easy Amer 2, aluminum with M20 adapter and 1" and 1 1/2" BSP aluminum couplings

Easy Amer 304, NPT with 1" stainless steel coupling

Easy Amer 304, with M20 adapter and 1" and 1 1/2" BSP 304 stainless steel couplings

Plastic adapter 1" BSP - 20 mm

Plastic adapter 1" NPT

Plastic adapter 1" NPT/M20

Order code



EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement Continuous level measurement Ultrasonic transducers

Continued

Selection and Ordering data		Article No.	
EchoMax XPS-15F ultrasonic transducer		7ML1171-	
High-frequency ultrasonic transducer designed for a wide variety of liquid and solid applications, for use with approved controllers. Includes integral temperature sensor.		0	
Measuring range: min. 0.45 m, max. 15 m			
Click on the Article No. for the online configuration in the PIA Life Cycle Portal.			
Mounting thread and facing			
1" NPT (Taper), ANSI/ASME B1.20.1		1	
Cable length			
5 m (16.40 ft)		B	
10 m (32.81 ft)		C	
30 m (98.43 ft)		D	
50 m (164.04 ft)		E	
100 m (328.08 ft)		F	
Mounting flange, flush mount			
None		A	
6" ASME, 150 lb, flat faced		B	
8" ASME, 150 lb, flat faced		C	
(Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5, or EN 1092-1, or JIS B 2220 standard.)			
Approvals			
FM Class I, Div. 1, Groups A, B, C, and D, Class II		1	
Div. 1, Groups E, F, and G, Class III			

Selection and Ordering data		Order code	
Further designs			
Please add "Z" to Article No. and specify Order code(s)			
Stainless steel tag (69 x 50 mm (2.71 x 1.97 inch))		Y15	
Measuring point number/identification (max. 27 characters) specify in plain text			
Operating instructions			
All literature is available to download for free, in a range of languages, at http://www.siemens.com/procepi/instrumentation/documentation			
Accessories		Article No.	
Tag, stainless steel with hole, 12 x 45 mm (0.47 x 1.77 inch), one text line for fastening on sensors		7ML1930-1BU	
Submergence shield kit		7ML1830-1BJ	
Universal box bracket, mounting kit		7ML1830-1BK	
Channel bracket, wall mount		7ML1830-1BL	
Extended channel bracket, wall mount		7ML1830-1BM	
Channel bracket, floor mount		7ML1830-1BN	
Extended channel bracket, floor mount		7ML1830-1BP	
Bridge channel bracket, floor mount (see Mounting Brackets on page 4/186 for more information)		7ML1830-1BQ	
1" NPT locknut, plastic		7ML1830-1DS	
Easy Aimer 2, aluminum, NPT with 3/4" x 1" PVC coupling		7ML1830-1AQ	
Easy Aimer 304, NPT with 1" stainless steel coupling		7ML1830-1AU	

Selection and Ordering data		Article No.	
EchoMax XPS-30 ultrasonic transducer		7ML1123-	
High-frequency ultrasonic transducer designed for a wide variety of liquid and solid applications, for use with approved controllers. Includes integral temperature sensor.		0	
1 1/2" universal thread compatible with 1 1/2" NPT and R 1 1/2" (BSPT), EN 10226			
Measuring range: min. 0.6 m (1.97 ft), max. 30 m (98.43 ft)			
Click on the Article No. for the online configuration in the PIA Life Cycle Portal.			
Mounting thread and facing			
1 1/2" universal thread		0	
1 1/2" universal thread, foam facing ¹⁾		1	
1 1/2" universal thread, PTFE facing ²⁾		2	
Cable length			
5 m (16.40 ft)		B	
10 m (32.81 ft)		C	
30 m (98.43 ft)		E	
50 m (164.04 ft)		F	
100 m (328.08 ft)		K	
Mounting flange			
None		A	
6" ASME, 150 lb, flat faced		D	
8" ASME, 150 lb, flat faced		E	
DN 150, PN 10/16, Type A, flat faced		J	
DN 200, PN 10, Type A, flat faced		K	
JIS10K 6B		N	
JIS10K 8B		P	
(Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5 or EN 1092-1, or JIS B 2220 standard.)			
Approvals			
ATEX 2G 1D Ex mb IIC T4 Gb, Ex ta IIIC T135 °C Da; IECEx SIR 13.0009X Ex mb IIC T4 Gb, Ex ta IIIC T135 °C Da		5	

¹⁾ Not available with flanged versions

²⁾ Available with flanged versions only

¹⁾ Not available with flanged versions.
²⁾ Available with flanged versions only.



EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement Continuous level measurement Ultrasonic transducers

EchoMax XPS

Selection and Ordering data

Further designs

Please add "Z" to Article No. and specify Order code(s)

Stainless steel tag (69 x 50 mm (2.71 x 1.97 inch)) measuring-point number/identification (max. 27 characters) specify in plain text

Operating instructions

Multi-language

Note: The Operating Instructions should be ordered as a separate line item on the order.

All literature is available to download for free, in a range of languages, at <http://www.siemens.com/processinstrumentation/documentation>

Accessories

Tag, stainless steel with hole, 12 x 45 mm (0.47 x 1.77 inch), one text line for fastening on sensors

1½" BSPT locknut, plastic

Easy Amer 2, aluminum, NPT with 1½" galvanized coupling

Easy Amer 304, NPT with 1½" stainless steel coupling

Easy Amer 2, aluminum with M20 adapter and 1" and 1½" BSPT aluminum couplings

Easy Amer 304, with M20 adapter and 1" and 1½" BSPT 304 stainless steel couplings

Adapter 1½" BSP

Order code

Y15

Article No.

A5E43390688

7ML1830-1BJ

7ML1830-1DP

7ML1830-1AN

7ML1830-1AT

7ML1830-1AX

7ML1830-1GN

7ML1830-1EB

Selection and Ordering data

EchoMax XPS-30C ultrasonic transducer

High-frequency ultrasonic transducer designed for a wide variety of liquid and solid applications, for use with approved controllers. Includes integral temperature sensor.

1½" universal thread compatible with 1½" NPT and R 1½" (BSPT), EN 10226

Measuring range: min. 0.6 m (1.97 ft), max. 30 m (98.43 ft)

Click on the Article No. for the online configuration in the RIA Life Cycle Portal

Mounting thread and facing

1½" universal thread

1½" universal thread, foam facing¹⁾

1½" universal thread, PTFE facing²⁾

Cable length

5 m (16.40 ft)

10 m (32.81 ft)

30 m (98.43 ft)

50 m (164.04 ft)

100 m (328.08 ft)

Mounting flange

None

6" ASME, 150 lb, flat faced

8" ASME, 150 lb, flat faced

DN 150, PN 10/16, Type A, flat faced

DN 200, PN 10, Type A, flat faced

JIS CK 6B

JIS CK 8B

(Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5 or EN 1092-1, or JIS B 2220 standard.)

Approvals

CSA, Class I, Div. 2, Groups A, B, C, D; Class II, Div. 1, Groups E, F, G; Class III

Article No.

7ML1155-

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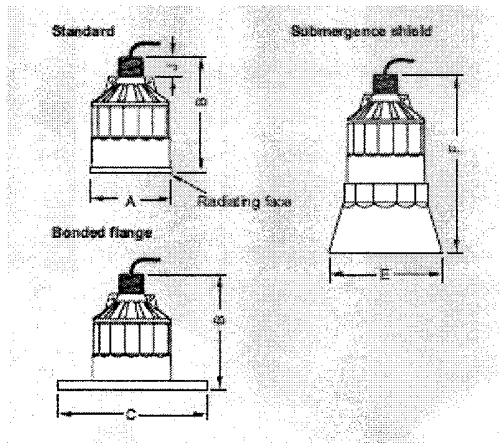
EXHIBIT A – SIEMENS PRODUCT SPECIFICATIONS

CITY OF PHOENIX

Level Measurement Continuous level measurement Ultrasonic transducers

EchoMax XPS

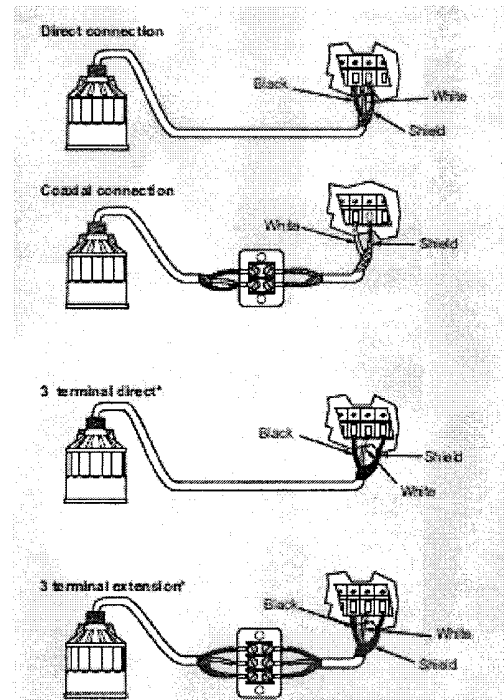
Dimensional drawings



XPS ultrasonic transducer

Version			
Dimension	XPS-10	XPS-15	XPS-30
A	88 mm (3.464 inch)	121 mm (4.764 inch)	175 mm (6.890 inch)
B	122 mm (4.803 inch)	132 mm (5.197 inch)	198 mm (7.796 inch)
C	According to ASME, DIN, and JIS		
E	124 mm (4.882 inch)	158 mm (6.220 inch)	n/a
F	152 mm (5.984 inch)	198 mm (7.796 inch)	n/a
J	28 mm (1.1 inch)	28 mm (1.1 inch)	28 mm (1.1 inch)

Circuit diagrams



* For SITRANS LUT400, MultiRanger 100/200, HydroRanger 200

Mounting

Make particularly sure that the radiating face of the transducer is protected from damage. Mount the transducer so that it is above the maximum material level by at least the blanking value. On liquid applications, the transducer must be mounted so that the axis of transmission is perpendicular to the liquid surface. On solids applications, an Easy-Aimer should be used to facilitate aiming the transducer. Consider the optional temperature sensor when mounting the transducer.

Interconnection

Do not route cable openly or near high voltage or current runs, contactors and SCR control drives. For optimum isolation against electrical noise, run cables separately in a grounded metal conduit. Seal all thread connections to prevent ingress of moisture.

XPS ultrasonic transducer connections

Signature: Nazario Prieto
Nazario Prieto (Jun 5, 2020 14:27 PDT)

Email: nazario.prieto@phoenix.gov



CONTRACT AMENDMENT

CITY OF PHOENIX
200 W. Washington St., 9th Floor
Phoenix, Arizona 85003
Phone: (602) 261-8812

2. Except as otherwise amended, all other terms and conditions of the Agreement and any prior amendments not in conflict will remain in full force and effect. If there is a conflict or ambiguity among amendments and the Agreement, the most recent amendment will only prevail and control if clear and unambiguous; and if not the original Agreement will govern to the extent necessary to support the intent of the Agreement.

ALL OTHER CONTRACT PRICES, TERMS, AND CONDITIONS WILL REMAIN THE SAME

Siemens Industry, Inc.

Contractor acknowledges receipt of and agreement with the amendment. A signed copy must be returned to the Water Services Department, Internal Business Support Division

**Butchart
Michael**

Digitally signed by Butchart Michael
 DN: cn=Butchart Michael, o=Siemens,
 email=mike.butchart@siemens.com
 Date: 2021.10.26 11:25:43 -04'00'

Signature

Printed Name

Title

Date: _____

**Gannon
Mark**

Digitally signed by Gannon Mark
 Date: 2021.10.26
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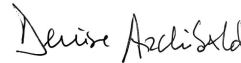
City of Phoenix, a municipal corporation
 Jeffrey J. Barton, City Manager

By:  Troy Hayes (Oct 29, 2021 10:08 PDT)


 BK

Director Name: Troy Hayes
 Director Title: Water Services Director

ATTEST:



City Clerk Nov 3, 2021

APPROVED AS TO FORM:

Cris Meyer, City Attorney

By: 
 Patricia Boland
 Assistant Chief Counsel

Nov 2, 2021

DCM





CONTRACT AMENDMENT

CITY OF PHOENIX
200 W. Washington St., 9th Floor
Phoenix, Arizona 85003
Phone: (602) 261-8812

Effective Date March 4, 2022
 Solicitation No. RFA 1920-WWT-197
 SRM/SAP Contract No. 4701007507
 City Clerk Contract No. 152367
 Ordinance # and Date S-46671, 6/3/2020
 Amendment No. 2

Contract Title Siemens Noncontact Level Meters
 Contractor Siemens Industry, Inc.
 Contractor E-mail Kenneth.charles@siemens.com

Buyer Name Audrey Mims
 Telephone No. 602 256-3343
 Buyer Email Audrey.mims@phoenix.gov

THE ABOVE REFERENCED CONTRACT IS AMENDED AS FOLLOWS:

Pursuant to Section II (Standard Terms and Conditions), ¶ 5.1 (Contract Amendments), the changes below are made to the contract as of the Effective Date above.

- In accordance with Section III (Special Terms and Conditions), ¶ 2 (Price), the parties agree that the new price for the following contract items in Attachment A – Price Schedule, as amended by Amendment 1, is as follows:

DESCRIPTION	MFR PART NO.	UOM	OLD UNIT PRICE	NEW UNIT PRICE
1. HydroRanger 200	7ML5034-4AA02	EA	\$1,868.00	\$1,919.00
2. HydroRanger 200	7ML5034-4AA01	EA	\$1,785.00	\$1,834.00
3. HydroRanger 200	7ML5034-1AA01	EA	\$1,996.00	\$2,051.00
4. HydroRanger 200	7ML5034-1AB02	EA	\$2,393.00	\$2,459.00
5. HydroRanger 200	7ML5034-3AA01-Z+C11	EA	\$2,114.00	\$2,172.00
6. LR 200 Radar Level	7ML54222AB30	EA	\$2,042.00	\$2,097.00
7. LR 200 Radar Level	7ML54222DB30	EA	\$2,213.00	\$2,273.00
8. Sitrans Probe LU	7ML5221-2AA11	EA	\$1,511.00	\$1,552.00
9. Sitrans Probe LU	7ML5221-2AA14	EA	\$1,511.00	\$1,552.00
10. Transducer ST-H	7ML11000AA20	EA	\$1,057.00	\$1,084.00
11. Transducer ST-H	7ML1100OCA20	EA	\$1,163.00	\$1,193.00
12. Transducer XPS-10	7ML1115-0ED30	EA	\$1,185.00	\$1,217.00
13. Transducer XPS-15	7ML1118-0EA40	EA	\$1,077.00	\$1,106.00
14. Transducer ST-H	7ML1100-0DA20	EA	\$1,229.00	\$1,260.00
15. Transducer XRS-5	7ML1106-1AA20-0A	EA	\$611.00	\$627.00
16. Transducer XPS-10	7ML1115-0FA30	EA	\$936.00	\$961.00
17. Transducer ST-H	7ML1100-0BA20	EA	\$1,103.00	\$1,132.00
18. Transducer XPS-15	7ML11180FA40 (165 feet of cable required)	EA	\$1,131.00	\$1,160.00
19. Transducer XPS-15	7ML1118-0EA30	EA	\$1,077.00	\$1,106.00
20. Transducer XPS-15	7ML1118-0CA30	EA	\$1,029.00	\$1,056.00



CONTRACT AMENDMENT

CITY OF PHOENIX
200 W. Washington St., 9th Floor
Phoenix, Arizona 85003
Phone: (602) 261-8812

2. Except as otherwise amended, all other terms and conditions of the Agreement and any prior amendments not in conflict will remain in full force and effect. If there is a conflict or ambiguity among amendments and the Agreement, the most recent amendment will only prevail and control if clear and unambiguous; and if not the original Agreement will govern to the extent necessary to support the intent of the Agreement.

ALL OTHER CONTRACT PRICES, TERMS, AND CONDITIONS WILL REMAIN THE SAME

Siemens Industry, Inc.

Contractor acknowledges receipt of and agreement with the amendment. A signed copy must be returned to the Water Services Department, Internal Business Support Division

**Butchart
Michael**

Digitally signed by Butchart Michael
DN: cn=Butchart Michael,
o=Siemens,
email=mika.butchart@siemens.com
Date: 2022.02.24 09:50:40 -05'00'

Signature

Printed Name

Title

Date:

City of Phoenix, a municipal corporation
Jeffrey Barton, City Manager

By:  Troy Hayes Feb 28, 2022 07:42 MST


BK

Director Name: Troy Hayes
Director Title: Water Services Director

ATTEST:



City Clerk

Mar 1, 2022

APPROVED AS TO FORM:

Cris Meyer, City Attorney

By:  Patricia Boland (Feb 28, 2022 12:07 MST)

Feb 28, 2022

Patricia Boland
Assistant Chief Counsel

bch



**Gannon
Mark** Digitally signed
by Gannon Mark
Date: 2022.02.24
09:54:14 -05'00'

**LINKING AGREEMENT
BETWEEN
THE CITY OF GLENDALE, ARIZONA
AND**

SIEMENS INDUSTRY, INC.

EXHIBIT C

METHOD AND AMOUNT OF COMPENSATION

Contractor will be compensated for Siemens noncontact level meters and associated parts per the City of Phoenix Contract No. 152367.

NOT TO EXCEED AMOUNT

The total amount of compensation paid to Contractor for full completion of all work required by the Project must not exceed \$250,000 for the entire term of the Agreement.

DETAILED PROJECT COMPENSATION

Contractor will be compensated for Siemens Noncontact Level Meters and associated parts per the City of Phoenix Contract No. 152367.

**CONTRACT AMENDMENT**

CITY OF PHOENIX
200 W. Washington St., 9th Floor
Phoenix, Arizona 85003
Phone: (602) 261-8812

Effective Date November 8, 2021
Solicitation No. RFA 1920-WWT-197
SRM/SAP Contract No. 4701007507
City Clerk Contract No. 152367
Ordinance # and Date S-46671, 6/3/2020
Amendment No. 1

Contract Title Siemens Noncontact Level Meters
Contractor Siemens Industry, Inc.
Contractor E-mail Kenneth.charles@siemens.com

Buyer Name Audrey Mims
Telephone No. 602 256-3343
Buyer Email Audrey.mims@phoenix.gov

THE ABOVE REFERENCED CONTRACT IS AMENDED AS FOLLOWS:

1. In accordance with Section III (Special Terms and Conditions), ¶ 2 (Price), the parties agree that the new price for the following contract items in Attachment A – Price Schedule, is as follows:

DESCRIPTION	MFR PART NO.	UOM	OLD UNIT PRICE	NEW UNIT PRICE
1. HydroRanger 200	7ML5034-4AA02	EA	\$1,745.00	\$1,868.00
2. HydroRanger 200	7ML5034-4AA01	EA	\$1,668.00	\$1,785.00
3. HydroRanger 200	7ML5034-1AA01	EA	\$1,731.00	\$1,996.00
4. HydroRanger 200	7ML5034-1AB02	EA	\$2,101.00	\$2,393.00
5. HydroRanger 200	7ML5034-3AA01-Z+C11	EA	\$1,843.00	\$2,114.00
6. LR 200 Radar Level	7ML54222AB30	EA	\$1,910.00	\$2,042.00
7. LR 200 Radar Level	7ML54222DB30	EA	\$2,070.00	\$2,213.00
8. Sitrans Probe LU	7ML5221-2AA11	EA	\$1,261.00	\$1,511.00
9. Sitrans Probe LU	7ML5221-2AA14	EA	\$1,261.00	\$1,511.00
10. Transducer ST-H	7ML11000AA20	EA	\$989.00	\$1,057.00
11. Transducer ST-H	7ML1100OCA20	EA	\$1,088.00	\$1,163.00
12. Transducer XPS-10	7ML1115-0ED30	EA	\$1,107.00	\$1,185.00
13. Transducer XPS-15	7ML1118-0EA40	EA	\$1,007.00	\$1,077.00
14. Transducer ST-H	7ML1100-0DA20	EA	\$1,150.00	\$1,229.00
15. Transducer XRS-5	7ML1106-1AA20-0A	EA	\$571.00	\$611.00
16. Transducer XPS-10	7ML1115-0FA30	EA	\$875.00	\$936.00
17. Transducer ST-H	7ML1100-0BA20	EA	\$1,032.00	\$1,103.00
18. Transducer XPS-15	7ML11180FA40 (165 feet of cable required)	EA	\$1,057.00	\$1,131.00
19. Transducer XPS-15	7ML1118-0EA30	EA	\$1,007.00	\$1,077.00
20. Transducer XPS-15	7ML1118-0CA30	EA	\$962.00	\$1,029.00