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| 440-1300-086 | | Sht. 1 of 2 | APP'D BY DMS |
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| 1 | 7-04-245 | | |
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**Customer Bid Specification for SIL Conforming Safety Switch
Two-wire RF-Admittance Point Level Control
AMETEK Drexelbrook IntelliPoint RF™**

The point level switch shall conform to SIL2 standards per IEC61 508-2, 7.4.3.1 1999 and consist of the following:

Electronics

The electronics shall be a radio frequency admittance type, with circuitry designed to ignore errors caused by coating “build-up” on the sensing element, ambient temperature fluctuations, or changes in conductivity and/or dielectric.

The point level switch shall not require calibration. The electronics shall be microprocessor controlled, and the software must be capable of assigning a trip point that does not require manual calibration or setpoint adjustments.

The enclosure shall be of a rugged, dual compartment design with the measuring circuit and sensing element located on one side, and the power supply, outputs and customer wiring connections on the other side.

The electronic unit shall be suitable for mounting integrally to the sensing element or up to 75 feet from the sensing element.

The ambient temperature limits of the electronics shall be -40°C to 70°C.

The output shall be 8mA – 16mA field selectable for normal or alarm. The electronics shall be furnished fail-safe for high level. The electronic unit shall have 100Amp static protection built in.

Operating response time shall be less than 1 second. The electronics shall be furnished with a time delay adjustment with up to 60 seconds response time.

The electronics shall be powered by the loop with a supply voltage of 13 – 30Vdc.

The electronics shall continuously perform an automatic self-test routine that electronically simulates a high level condition identical to an actual high level condition on the sensing element. The self-test function shall detect the loss of sensing element, improper sensing element connection, or a failure in the electronics. A manual test procedure shall be furnished that will check the integrity of the electronics, sensing element, connecting cables and the output relays.

Sensing Element

The sensing element shall be of a rigid or flexible design and shall be rugged and suitable for the temperature and pressure required by the application. If required, the sensing element shall be abrasion resistant and/or shall be made of a material that resist chemical attack. The sensing element shall be a three-terminal type, and shall contain no active electronics. The sensing element, when remotely mounted, shall be furnished with a conduit that meets NEMA 1-5 and 12 area classifications.

Interconnecting Cable (Remote Mounting)

The coaxial interconnecting cable shall be a three-conductor, driven-shield type, up to 75 feet long, and shall be used to connect the sensing element to the electronic unit.

System Approvals**FM**

Explosionproof for Class I, Division 1, Groups A, B, C and D;
Dust-Ignitionproof for Class II, III, Division 1, Groups E, F and G;
Nonincendive for Class I, Division 2, Groups A, B, C & D;
Suitable for Class II, III, Groups F & G hazardous outdoor Type 4X, IP66 (classified) locations with Intrinsically Safe connections to Class I, II, III, Division 1, Groups A, B, C, D, E, F and G hazardous (classified) locations.

CSA Approval

Class I, Division I, Groups A, B, C, and D with Intrinsically Safe probe: Class II, Groups E, F, and G; Class III

Intellipoint RF Two-wire Point level system RXT4 Series: Rated 30Vmax., 140mA max. with or without optional remote sensing element connection box; Temperature Code T4; Maximum Ambient Temperature + 70o C; Enclosure Type 4X.

Class I, Division I, Groups A, B, C, and D: Class II, Groups E, F, and G; Class III

Intellipoint RF Two-wire Point level system RXT4 Series: Rated 30Vmax., 140mA max. with or without optional remote sensing element connection box; Temperature Code T4; Maximum Ambient Temperature + 70o C; Enclosure Type 4X.

Intrinsically Safe with Entity parameters listed below when installed as per drawing number 420-0004-174-CD

Entity parameters

Vmax. = 30V I_{max.} = 140mA C_i = 0 L_i = 145uH

ATEX Approval

II 1G EEx ia IIC T5 Ta = - 30 to + 75o C

II1D T90o C

Safety Data

U_i = 30V, I_i = 140mA, P_i = 1W, L_i = 145uH

Ingress Protection Code IP66 according to EN 60529

Install per drawing 420-4-175-CD

The point level control switch shall be the AMETEK Drexelbrook IntelliPoint RF™ Series (SXRXTX-XXXX-XXXX).