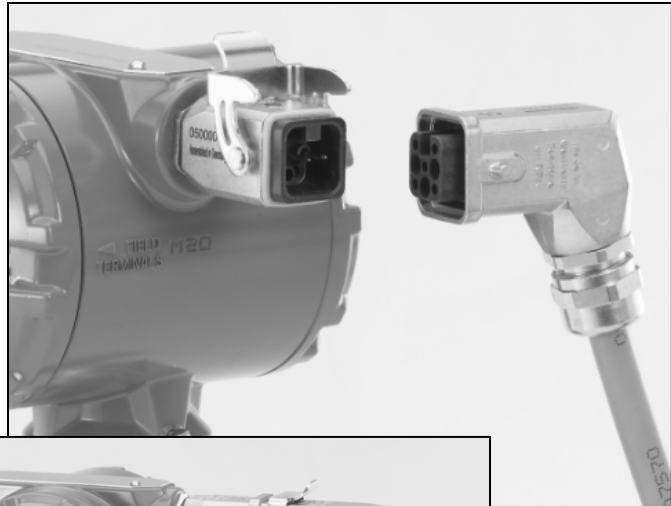


The Rosemount 356 Nuclear Connector

- *Easy-to-install connector for use outside containment*
- *Die cast zinc or stainless steel connector body*
- *Available with top or side entry hood*
- *Qualified with Rosemount Nuclear Instruments pressure transmitters for mild service*



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Rosemount 356

PRODUCT DESCRIPTION

The Rosemount 356 Nuclear Electrical Connector is a clamp-style disconnect device. The connector is sealed on the instrument side to prevent moisture and water from penetrating the conduit entry. The 356 connector is available with a top or side entry hood on the field side.

The connector assembly is manufactured under a nuclear quality assurance program that meets the requirements of KTA 1401 / 3507 and IAEA 50-C-Q.

The instrument-side connector can be ordered with or without unassembled field side kit (for installation on-site with customer-provided cable, using approved assembly instructions).

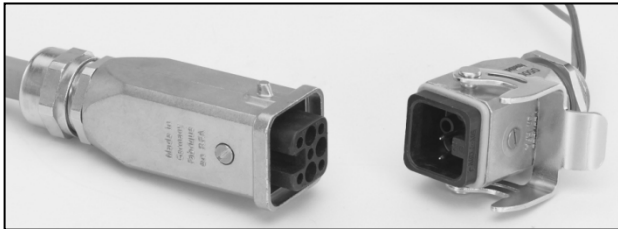


Figure 1. Rosemount 356 Nuclear Connector.

Intended Applications

- 1E outside containment (valve chamber, annulus & auxiliaries)

Features and Benefits

- Easy-to-install connector for use outside containment
- Choice of conduit entry threads (male): M20x1.5, PG13.5
- Available with top or side entry hood
- Available in zinc die-cast or stainless steel connector body
- Qualified with Rosemount Nuclear Instruments pressure transmitters for mild service, no LOCA
- Maintenance free

Qualification Standards & Reports

KTA 3505 (11/2005), IEEE Std 344, IEC 61000, IEC/CISPR 16:

- D2009011, KTA Qualification Report for Rosemount 3152K Pressure Transmitter
- D2009013, KTA Qualification Report: Rosemount 356 Nuclear Connector

SPECIFICATIONS

Nuclear Specifications

Qualification of Rosemount 356 has been established in conjunction with KTA testing of Rosemount 3152K pressure transmitter. See 3152K Product Data Sheet (00813-0200-4852) for nuclear specifications; qualification testing of 3152K with 356 Nuclear Connector (zinc die cast) is documented in qualification report D2009011. Rosemount 356 is not qualified for LOCA.

Functional Specifications ⁽¹⁾

Dielectric Withstand	60 sec @ 500 VAC: leakage ≤ 30 micro Amp
Insulation Resistance	10 sec @ 500 VDC: IR ≥ 1 GOhm

(1) Verified 100% during connector manufacturing

Electrical Specifications ⁽²⁾

Working Voltage	250 V
Working Current	1 Amp @ 125°C
Contact Resistance	≤ 3 mOhm

(2) Maximum rated values

Physical Specifications

Weight (Instrument side)	0.085 kg (zinc) 0.117 kg (SST)
Protection Level (coupled)	IP 65
Approval according to UL 50 (coupled)	NEMA 4X

Materials of Construction

Body	Zinc die cast or, 316L SST
Crimp Terminal	Ryton®
Profile Seal (O-ring)	FPM
Potting (instrument side)	Stycast®
Lead Wire (instrument side)	Eupen insulated wire (0.5 mm ²)

Installation

The Rosemount 356 should be installed into the conduit entry using a plant-approved sealant with locknut tightened to 25 N-m (221 in-lb) (see instrument product manual for details). Integral lead wires are then connected to the instrument's terminal block, with polarity according to end user's requirements.

The field-side is coupled to the instrument-side with a snap-type connection.

If the 356 connector is not factory-installed, qualification of the instrument/connector interface becomes the user's responsibility.

Field Side Kits

Field side kits are available for on-site assembly using customer-provided instrumentation cable. Crimp tool is required for proper assembly and is available from Rosemount. The customer is responsible for proper assembly and for using an

instrumentation cable that is both qualified and compatible with connector components. Contact Rosemount Nuclear Instruments for technical assistance.

Revision Control

Reference File RF-0356-EPR-01 has been created to document the evolution of important drawings, part numbers, manufacturing, test, and inspection procedures associated with the Rosemount 356 Nuclear Connector. The Reference File is maintained in accordance with RNII's documented quality system, and is intended to satisfy the requirements of "Reference File" as defined by RCC-E and "Document Catalogue" as defined by KTA.

Baseline qualification hardware is documented in Equipment Identification File EIF-0356-EPR-01.

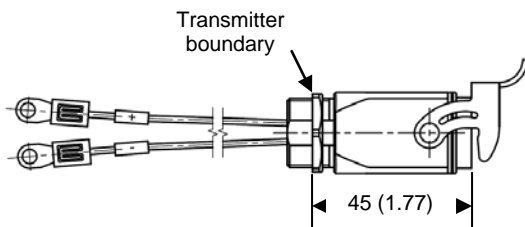


Figure 2a. Instrument side connector – Zinc die cast.

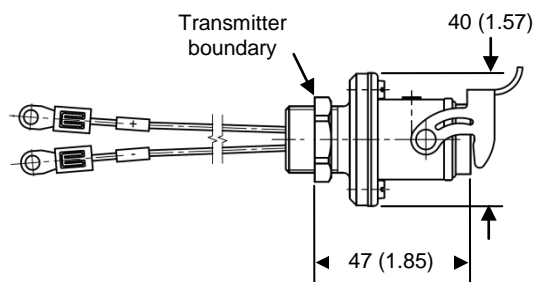


Figure 2b. Instrument side connector – SST.

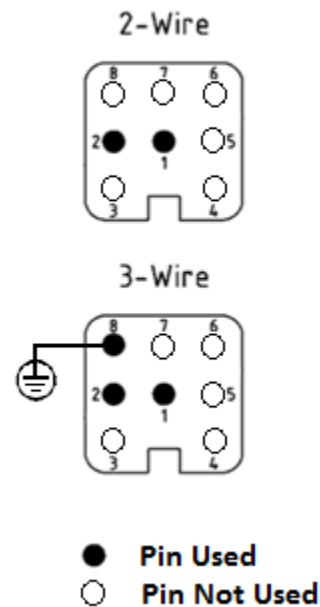


Figure 3. Wiring scheme.

(see ordering information for polarity codes)

Note: Dimensions are nominal in millimeters (inches).

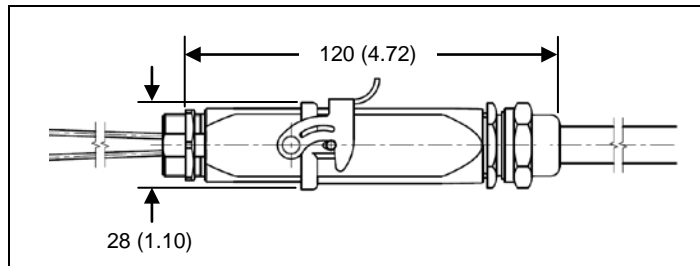


Figure 4a. Coupled connector – top entry hood (Zinc die cast).

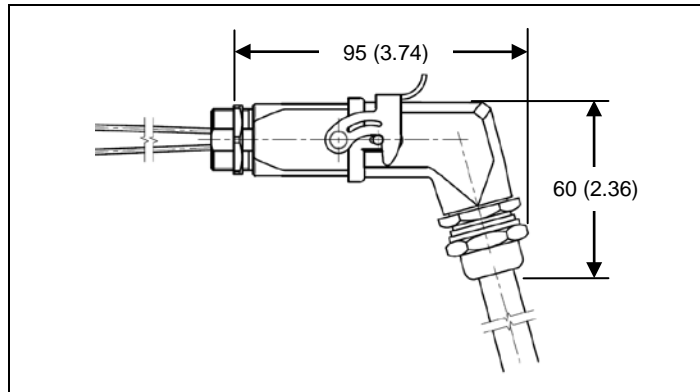


Figure 4b. Coupled connector – side entry hood (Zinc die cast).

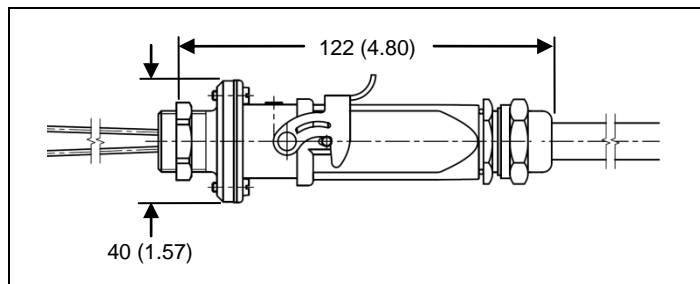


Figure 5a. Coupled connector – top entry hood (SST).

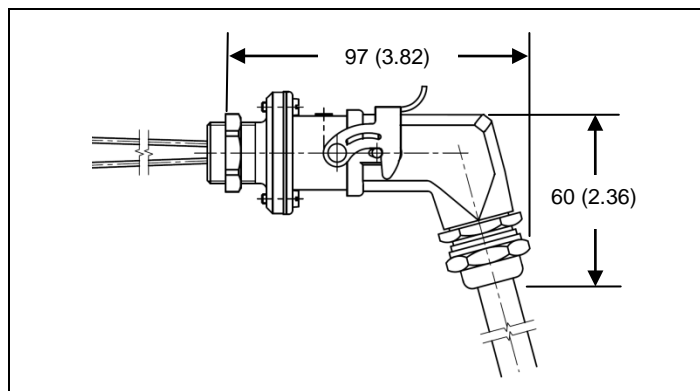


Figure 5b. Coupled connector – side entry hood (SST).

Note: Dimensions are nominal in millimeters (inches).

MODEL ORDERING INFORMATION

Rosemount 356 Nuclear Electrical Connector (Type Han® 7D)

Model	Description
356	Rosemount Nuclear Electrical Connector
Code	Connector Configuration (see note 2)
A	Instrument-side Only (zinc die cast)
B	Instrument-side + Field-side Kit (unassembled; no cable) (zinc die cast)
D	Instrument-side Only (SST)
E	Instrument-side + Field-side Kit (unassembled; no cable) (SST)
Code	"Assemble to" Flag & Polarity (see note 3)
0	Connector only; not ordered with pressure transmitter
1	Connector assembled to transmitter, pin 1 = positive
2	Connector assembled to transmitter, pin 2 = positive
Code	Conduit Entry Threads
T2	PG13.5
T3	M20x1.5
Code	Wire Size (Instrument side)
20	20 AWG (0.5mm ²)
Code	Number of Pins (see note 4)
P2	2 Pins
P3	3 Pins
P4	4 Pins
Code	Lead Wire Length (Instrument side)
0150	150 mm (direct mounting of connector)
0200	200 mm (connector installed with 90° conduit elbow)
xxxx	Customer-specified Length (mm)
Code	Connector Hood Type (Field side)
H1	Top Entry Hood
H2	Side Entry Hood
Code	Wire Size (Field side) – must agree with cable type
W20	20 AWG (0.5mm ²)
W18	18 AWG (1.0mm ²)
Code	Cable Gland (Field side) (see note 1)
G1	Perfect EMC

Notes

- (1) KTA qualification testing was performed using 356 Nuclear Connectors (zinc die cast) fabricated with Wadi EMC cable glands and Eupen cable, which were then installed on Rosemount 3152 & 1152 Pressure Transmitters. Perfect EMC cable gland is qualified to same levels by similarity. SST connectors are qualified by similarity analysis and test. Analysis or test may be required to demonstrate performance of other cable glands or cables.
- (2) The end user must take care to assemble field side kits in accordance with approved instructions. The end user is responsible for on-site assembly of field side connectors.
- (3) Explanation of "assemble to" flag and polarity:
 - code "0" should be used when ordering spare connectors for on-site installation by end user.
 - code "1": Instrument side connector is factory-installed with pin 1 to positive terminal (see Figure 3).
 - code "2": Instrument side connector is factory-installed with pin 2 to positive terminal (see Figure 3).
- (4) If ordering option code P4, contact Rosemount Nuclear Instruments, Inc. for wiring information.

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