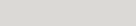
 TORUS	· Owner PIG PASSAGE SIGNALER	Document No.	INS-DS-013		
		Revision / Date	A · September 29, 2026		
		Issue purpose	Issued for Review		
INSTRUMENTATION AND CONTROLS · PIG PASSAGE SIGNALER					
Rev.	Date	Revision description	Prepared	Reviewed	Approved
A	2026-09-29	Issued for Review			

NOTES

1. This datasheet covers the intrusive pig passage signaler at pig receiver PR-101.
2. Controlling documents:  GEN-DB-001, Basis of Design;  INS-LST-001, Instrument Index;  INS-LST-002, I/O List;  INS-LST-003, Alarm and Trip Setpoints;  INS-RPT-001, Control Philosophy and Functional Narrative (pigging).
3. Values marked typical are budgetary. The vendor shall confirm them with its proposal and final data (HOLD H-15).
4. Units are US customary. Pressures are gauge unless stated as absolute. Operating cases C1 to C7 are defined in  GEN-DB-001, Section 6; normal conditions are case C2, maximum operating conditions the envelope of C1 to C7, and design conditions those of  GEN-DB-001, Section 7.
5. The signaler shows arrival only. Opening the closure relies on the PR-101 mechanical pressure-warning interlock, PI-102 and PT-102A.

GENERAL

Table 1-1: General Data

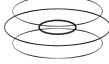
Item	Value	Item	Value
Project	 County, 	Service	120 MMSCFD gas receipt into the receiving pipeline operator's 
Form content	ISA-20; tag numbers to ISA-5.1	Electrical codes	NFPA 70 (2023) Articles 500 and 501; API RP 500
Safety instrumented tags	IEC 61511 and IEC 61508	Sour service	Not required; sweet gas, H ₂ S 4 ppmv maximum (NACE MR0175 not applied)

SITE CONDITIONS

Table 1-2: Site and Environmental Conditions

Item	Value	Item	Value
Ambient design temperature	-5 °F to 110 °F	Electronics rating	-40 °F to 158 °F (-40 °C to 70 °C)
Solar radiation	1,000 W/m ² ; sunshades where exposed	Elevation and atmosphere	1,150 ft MSL; 14.10 psia
Wind and ice	108 mph (ASCE 7-22, Exposure C); 0.5 in radial ice (HOLD H-06)	Area classification	Class I, Division 2, Group D in process areas; Division 1 within 5 ft of vents and relief outlets (Volume 6 area classification drawing)
Temperature class	T3 minimum (natural gas autoignition about 900 °F)	Enclosure	NEMA 4X (IP66) minimum; 316 SS or copper-free aluminum (below 0.4 % Cu), epoxy coated
Instrument power	24 VDC from the station UPS ( GEN-DB-001, Section 9.8) unless noted		



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TAG SCHEDULE

Table 1-3 lists every tag in  INS-LST-001 that references this datasheet, and Table 1-4 gives the process conditions at each tag.

Table 1-3: Tag Schedule

Tag	Service	P&ID	Range or set	System	JB	Area classification
XI-102	Pig passage signaler at PR-101 barrel	 PRO-DWG-101	Pig passed	BPCS RTU/PLC	JB-101	Class I, Division 2, Group D

Table 1-4: Process Conditions

Tag	Normal P and T	Maximum operating P and T	Design P and T
XI-102	1,050 psig / 70 °F	1,150 psig / 45 to 120 °F	1,440 psig / -20 to 150 °F

SPECIFICATION

Table 1-5: Specification

Item	Requirement
Type	Intrusive bi-directional mechanical trigger pig signaler with visual flag and electrical switch
Line size	NPS 12 line and NPS 16 barrel; on the barrel reducer or on the line upstream of the barrel valve (location by Volume 4)
Pressure rating	Class 600, 1,440 psig at -20 to 150 °F; hydrotest 2,160 psig
Fitting	2 in weld-on or flanged fitting with full-pressure isolation, so the trigger can be removed under pressure with a retrieval tool
Trigger	Bi-directional stainless trigger; protrusion to suit cup and disc pigs, 1/2 in minimum
Reset	Manual reset of the flag; switch latched until reset
Switch	Hermetically sealed SPDT, 24 VDC, explosion-proof Class I, Division 1, Group D, to RTU input XS-102
Materials	Body ASTM A350 LF2 or A105; trigger 17-4PH SS; HNBR seals suitable for -20 °F
Enclosure	NEMA 4X
Inspection and testing	Hydrotest and function test certificate
Documentation	Dimensional drawing, wiring diagram, hazardous location certificate, calibration certificate, IEC 61508 certificate and safety manual for safety instrumented tags, installation and maintenance manual and spare parts list, all as searchable PDF

OPEN ITEMS

Table 1-6: Open Items

HOLD	Item	Responsible party
H-16	Upstream pigging program (pig type and frequency)	Owner

