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IQAN-ST Sensors

Electronic Control Systems



ENGINEERING YOUR SUCCESS.

Application

The IQAN-ST temperature transducer belongs to the family of IQAN accessories developed to complement IQAN control systems. IQAN-ST is a new 0-5V output temperature transducer for mobile hydraulic applications. This transducer is available in three interface types; G1/4 BSP, M10 and 9/16"-18 UNF SAE 6. The G1/4 BSP and M10 sensors have an integral Bosch automotive connector. The SAE 6 sensor has a short cable-mounted Deutsch connector. To make the sensor suitable for mobile equipment, we have focused upon properties such as reliability, electromagnetic immunity and ease of installation.

Properties

Reliability

The IQAN-ST has stainless steel construction for strength. The PT100 sensor uses thin film technology with internal amplification. All versions of the sensor have high pressure capability. The IQAN-ST is very robust and able to withstand heavy vibrations.

Electromagnetic immunity

The design of the IQAN-ST has an EMI cap that separates the sensor electronics from the connector. This ensures a high level of EMI protection.

Installation

The IQAN-ST is well designed for the mobile hydraulics industry. The 3 pin integral Bosch connector is a sealed AMP Junior Timer type. The Deutsch connector is the DT04 type. Both connectors are designed for automotive use. These connectors give the sensor IP65 protection for exposed outdoor applications. The hex of the G1/4 BSP and M10 versions of the transducer have integrated face seals to eliminate loose sealing washers. The SAE 6 sensor type has a factory installed O-ring. These features provide for easy installation and removal, even in field conditions.

Specifications

General

Weight	50 g
Operating temperature	-50 to 150°C
Protection	outdoor use
Pressure rating	
G (1/4 BSP)	Max 700 bar
M (M10)	Max 350 bar
U (SAE 6)	Max 1000 bar

Electrical

Voltage supply V_s	5±0.5 Vdc Max 6 Vdc
Current consumption	5.0 µA Max 7.5 µA
Total error (25°C)	1%
Total error (-40 to 150°C)	4%

Output

FS (150°C)	4.75 Vdc
Zero (-50°C)	0.25 Vdc
Span	4.50 Vdc
Ratiometricity	1%
Linearity	1% FS

Threaded interfaces

G	1/4"-19 BSP with integral face seal
M	M10 x 1, with integral face seal
U	9/16"-18 UNF, SAE 6 with nitrile o-ring seal

Connectors

B	Bosch -AMP Junior Timer
D	Deutsch DT04-4P

Orderable unit codes

IQAN-ST-G-B ordering part no.	G1/4 with Bosch 20073657
IQAN-ST-M-B ordering part no.	M10 with Bosch 20073659
IQAN-ST-U-D ordering part no.	SAE 6 with Deutsch 20073658

Environmental Protection

EMI

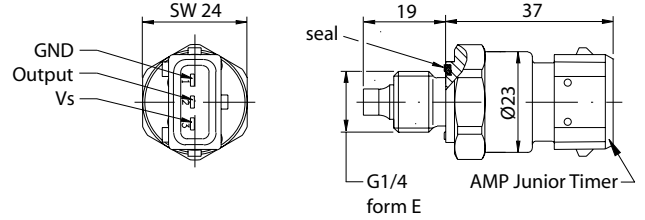
EN 55022 (radiated emission), <30 dBµV/m
 ISO 11452, T5 (immunity vs EM field), 200 V/m
 EN 61000-4-6 (immunity vs injected RF), 10 V
 EN 61000-4-4 (immunity vs supply transients), 1 kV

Mechanical environment

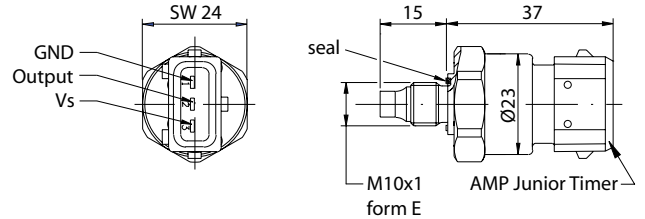
IEC 60068-2-64 (vibration), 0.4 g²/Hz, 1.5 to 250 kHz
 IEC 60068-2-27 (shock)

Climate environment

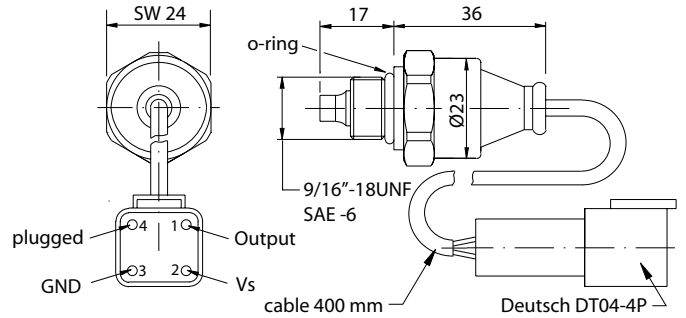
IEC 60529 (water), IP65



IQAN-ST-G-B



IQAN-ST-M-B



IQAN-ST-U-D

unit = mm

! WARNING

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

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