

vibro-meter
certified by**IQS 451, 452, 453**

**PROXIMITY SYSTEM
Signal Conditioner
Type IQS 451, 452, 453**

CHARACTERISTICS

- For use with the TQ 400 series transducers
- Temperature compensated
- Conforms to API 670 recommendations
- Certified to CENELEC standards
- Output protected against short circuits
- Voltage or current output

DESCRIPTION

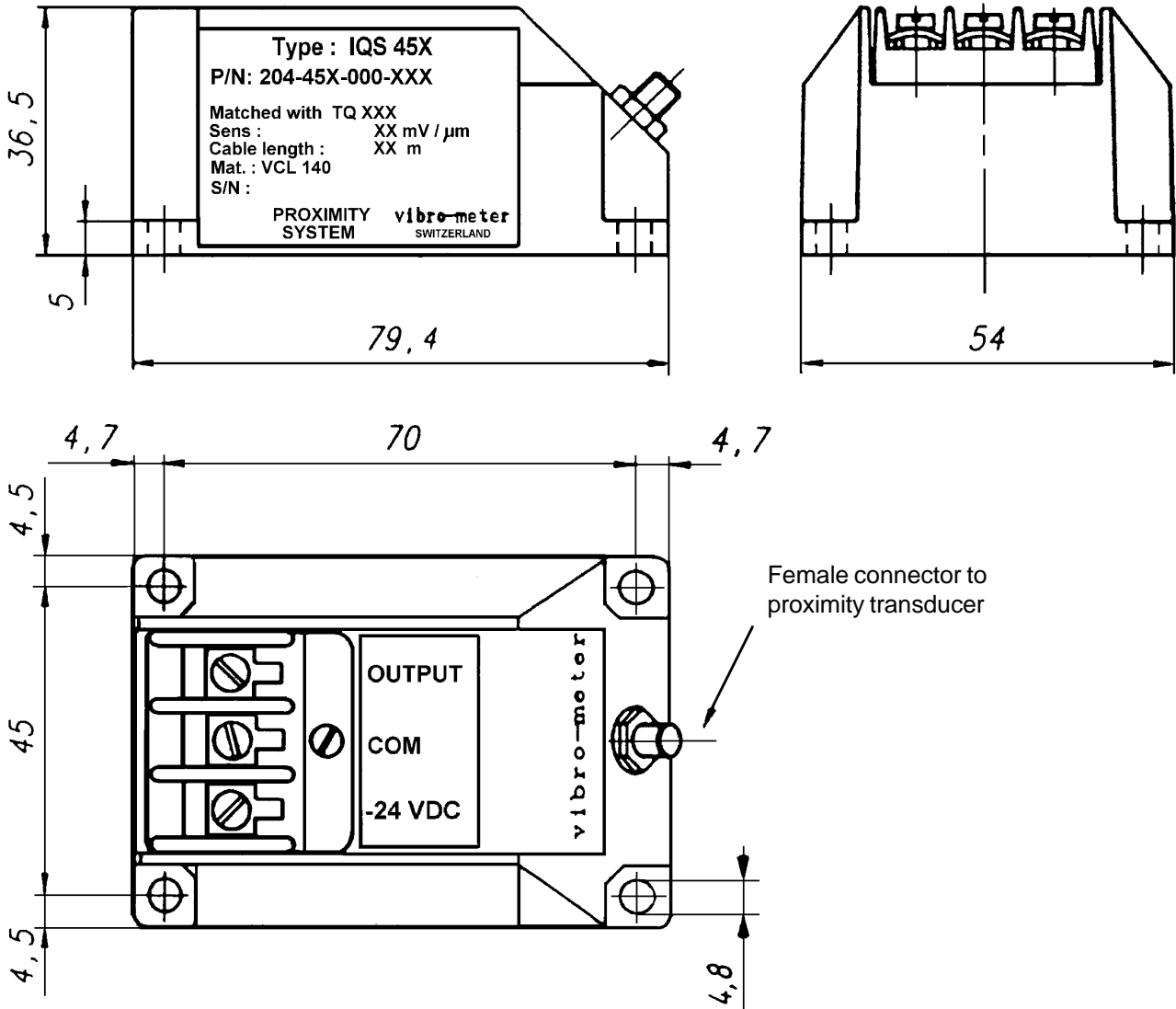
The HF modulator/demodulator in the IQS 451, 452, 453 signal conditioner supplies a driving signal to the matching proximity transducer. This generates the necessary electromagnetic field used to measure the gap between the transducer tip and the target, using the eddy current principle. As this gap distance varies, the output of the conditioner provides a dynamic signal proportional to the movement of the target.



The power for the transducer-conditioner system is obtained from the associated processor modules or rack power supply. The conditioner circuitry is made of high-quality components and is mounted and potted in an aluminium extrusion to seal out moisture and dust. Please refer to the accessory list for the range of available enclosures for additional protection and for multi-channel installations.

DIMENSIONS

IQS 451, 452, 453



INPUT CHARACTERISTICS**Matching transducer :**

All Vibro-Meter TQ 400 series proximity transducers (with combined extension cable if applicable).

TRANSFER CHARACTERISTICS

Frequency response : DC to 20 kHz (-3 dB)

Interchangeability : $\leq 5\%$

Sensitivity : See table below

OUTPUT CHARACTERISTICS**Voltage output 3 wires**

- Output impedance : 500 Ω
- Short-circuit current : 45 mA

Current output 2 wires

- Current at min. GAP : 15 mA
- Current at max. GAP : 20 mA
- Dynamic range : 5 mA

SUPPLY

Voltage : -20 V to -32 V

Current : 13 \pm 1 mA (25 mA max.)

ENVIRONMENTAL CHARACTERISTICS

(According to DIN 40040)

Temperature range

- Operation : -30°C to +70°C
- Storage : -40°C to +80°C

Humidity

- Operation and storage: Max. 95% non condensing

Vibration

- Operation and storage: 2 g peak between 10 Hz and 500 Hz

Explosive atmosphere :

CENELEC certificate LCIE SYST 93.C 6081X EEx ib IIC T6.

PRESENTATION**Mechanical construction**

: Injection moulded aluminium, anodized

Protection class

: IP 40

ELECTRICAL CONNECTIONS**Input**

: Stainless steel coaxial female socket

Output and power

: Screw terminal strip

WEIGHT

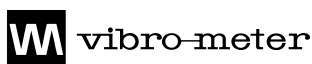
: Approx. 140 g
(Exi version: 220 g)

Measuring Range	Probe Type	IQS Type	Mode	Sensitivity	Cable Length	Version	Ordering Number
2 mm	TQ 4X1	IQS 451	Voltage O/P 3 wires	8 mV/μm	5 m	Standard	204-451-000-011
					10 m	Standard	204-451-000-021
			5 m	Exi	10 m	Exi	204-451-000-031
							204-451-000-041
	TQ 4X2	IQS 452	Current O/P 2 wires ¹⁾	2.5 μA/μm	5 m	Standard	204-451-000-111
					10 m	Standard	204-451-000-121
			5 m	Exi	10 m	Exi	204-451-000-131
							204-451-000-141
4 mm	TQ 4X2	IQS 452	Voltage O/P 3 wires	8 mV/μm	5 m	Standard	204-452-000-211
					10 m	Standard	204-452-000-221
			5 m	Exi	10 m	Exi	204-452-000-231
							204-452-000-241
	TQ 4X3	IQS 453	Current O/P 2 wires ¹⁾	2.5 μA/μm	5 m	Standard	204-452-000-311
					10 m	Standard	204-452-000-321
			5 m	Exi	10 m	Exi	204-452-000-331
							204-452-000-341
TQ 4X2	IQS 452	Voltage O/P 3 wires	4 mV/μm	5 m	Standard	204-452-000-011	
				10 m	Standard	204-452-000-021	
		5 m	Exi	10 m	Exi	204-452-000-031	
						204-452-000-041	
TQ 4X3	IQS 453	Current O/P 2 wires ¹⁾	1.25 μA/μm	5 m	Standard	204-452-000-111	
				10 m	Standard	204-452-000-121	
		5 m	Exi	10 m	Exi	204-452-000-131	
						204-452-000-141	
12 mm	TQ 4X3	IQS 453	Voltage O/P 3 wires	1.33 mV/μm	5 m	Standard	204-453-000-011
					10 m	Standard	204-453-000-021
			5 m	Exi	10 m	Exi	204-453-000-031
							204-453-000-041
	TQ 4X3	IQS 453	Current O/P 2 wires ¹⁾	0.417 μA/μm	5 m	Standard	204-453-000-111
					10 m	Standard	204-453-000-121
			5 m	Exi	10 m	Exi	204-453-000-131
							204-453-000-141

¹⁾ Current output is used in conjunction with GSI 123 galvanic separation



Due to the continual development of our products we reserve the right to modify the specifications without forewarning.



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Vibro-Meter is a member of the
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