

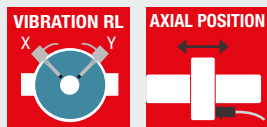
VIBRATION AND AXIAL DISPLACEMENT TRANSMITTER

TR-NC/8

The TR-NC/8 transmitter measures the relative vibration or the axial displacement of a shaft and it is able to interface directly in 2 wires technique (current loop $4 \div 20$ mA) to an acquisition system (PLC or DCS).

The measuring chain is composed by a proximity sensor, an extension cable and a transmitter. It is supplied complete with:

- No. 4 contacts: two for the 24 Vdc connection of the power supply and two for the check of the voltage gap for the probe positioning
- BNC socket for the connection to a portable analyser
- Coaxial connector for the sensor connection



TECHNICAL CHARACTERISTICS

Measuring Chain	■ TR-NC/8 transmitter ■ ST-NC/8 sensor (<i>To be ordered separately, see page 3</i>) ■ Extension cable (<i>To be ordered separately, see page 3</i>)
Power supply	■ 24 Vdc ($18 \div 32$ Vdc) current loop $4 \div 20$ mA (2 wires) ■ Maximum load see figure 1
External connection	■ Bipolar shielded cable to the terminals POWER +/-
Environmental field	■ Sensor: -55°C to 180°C (ATEX: -55°C to 175°C) ■ Extension cable: -55°C to 180°C (ATEX: -55°C to 175°C) ■ Transmitter: -40°C to 80°C (ATEX: -20°C to 70°C)
Measurement type	■ Relative vibration ■ Axial displacement
Dynamic field	■ $1.5 \div 10.000$ Hz (vibration) ■ $0 \div 500$ Hz (displacement)
Linearity	■ $\pm 2\%$ (range $0,5 \div 2,5\text{mm}$; $T=100^{\circ}\text{C}$)
Insulation	■ $\geq 10^8 \Omega$ between signal and container
Possible arrangements to the order	■ Measurement type (vibration, axial displacement) ■ Cable length ■ Measuring range ■ Type of target ■ Type of certification

TR-NC/8 TRANSMITTER

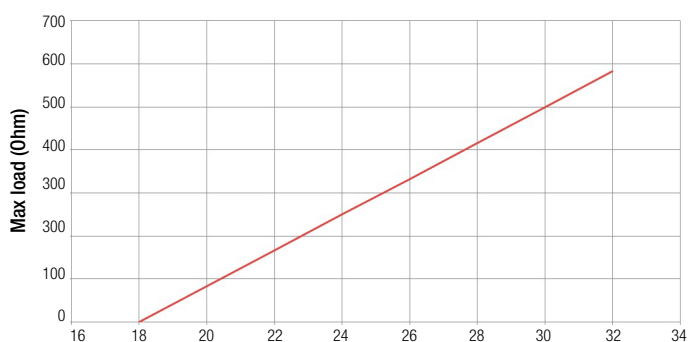
The transmitter is also available as ATEX certified for classified area application

 II 1G Ex ia IIC T6,T5 Ga (ATEX)
Ex ia IIC T6,T5 Ga (IECEX)



Power supply:	24Vdc
Target:	AISI 4140 (default)
	Any Steel (optional)
Dynamic field:	1,5 ÷ 10KHz vibration
	0 ÷ 500Hz displacement
Environmental field:	-20°C ÷ +70°C
DIN Rail:	Yes

Maximum load on current loop



CONVERTER

TR-NC/ 8 / ☐ / ☐ / ☐ / ☐ / ☐

A: MEASUREMENT TYPE

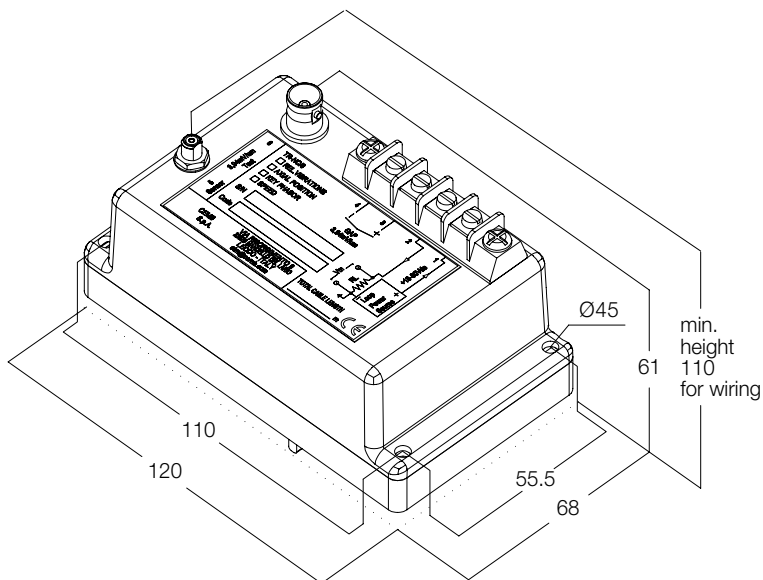
1	relative vibration
2	axial displacement

B: MEASURING CHAIN LENGHT

1	5 m
2	7 m
3	9 m

C: MEASURING RANGE

01	0÷100 µm Peak-peak vibration
02	0÷125 µm Peak-peak vibration
03	0÷200 µm Peak-peak vibration
04	0÷250 µm Peak-peak vibration
05	± 0,5 mm axial displacement
06	± 0,75 mm axial displacement
07	± 1 mm axial displacement



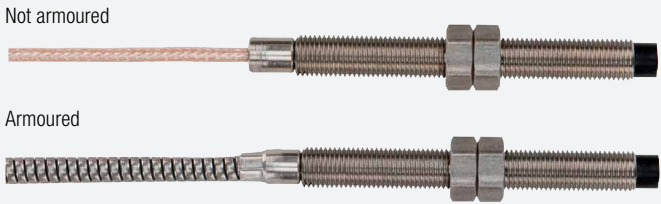
D: TARGET TYPE

1	AISI 4140	10:	UNI 18CrNi Mo
2	AISI 410	11:	UNI 21CrMoV5-7
3	AISI 304	12:	UNI 23CrMoNiWv88
4	AISI 630	13:	UNI 26NiCrMoV14-5
5	C45	14:	UNI 35NiCrD15
6	INCOLOY	15:	UNI 36NiCrMo16
7	ER7T-ER8	16:	DIN 1.4571
8:	ASTM 276 SDX	17:	DIN 1.4462
9:	ASTM 668 UST-52-3	18:	DIN 1.7225
		S:	special

E: TYPE OF CERTIFICATION

1	Standard
2	 II 1G Ex ia IIC T6,T5 Ga (ATEX)
3	Ex ia IIC T6,T5 Ga (IECEX)

INTEGRATED CABLE TYPES

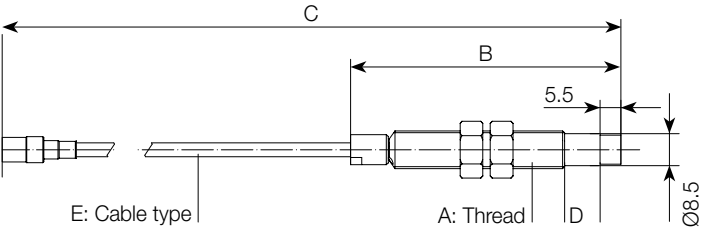


Material:	Stainless steel
Thread:	M10 o 3/8" - UNF
Body:	40 mm ÷ 250 mm
Oil proof:	Yes
Stainless steel armour cable:	Optional

EXTENSION CABLE (optional)



Stainless steel armour cable: Optional



PROBE

ST - NC / 8 / / / / / *

A: THREAD TYPE

0	M10x1
1	3/8"-24UNF

B: BODY LENGTH

pitch 10 mm – minimum 40 mm (4) – maximum 250 mm (25)	
5	50 mm (standard)

C: TOTAL LENGTH (BODY + CABLE)

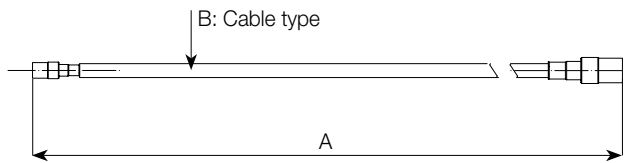
pitch 500 mm – minimum 500 mm (5) – maximum 9000 mm (90)	
10	1000 mm (standard)

D: UNTHREADED PART LENGTH (ONLY FOR M10X1)

pitch 10 mm – Minimum 0 mm (0) – Maximum 120 mm (12)	
0	0 mm (standard)

E: CABLE ARMATURE

0	not armoured
1	armoured



EXTENSION CABLE (optional)

CPT - NC / 8 / / *

A: CABLE LENGTH

pitch 500 mm – minimum 1500 mm (15) – maximum 8500 mm (85)	
40	4000 mm (standard)

B: CABLE ARMOUR

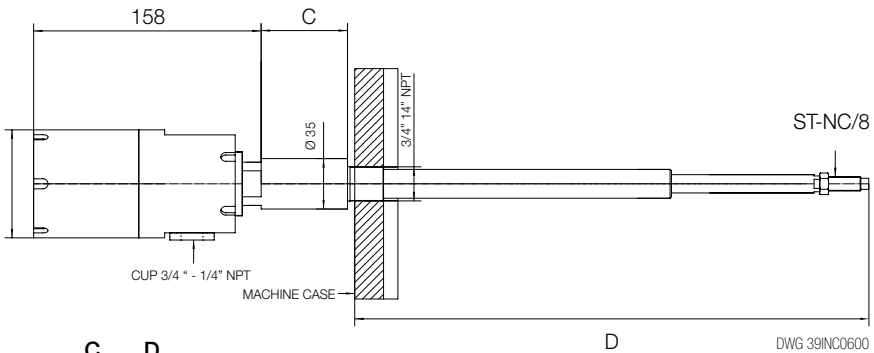
0	not armoured
1	armoured

* In the old coding, number zero “0” could be present before the code number.

Example:
ST-NC/8/0/05/010/00/0 (old code)
Equivalent to:
ST-NC/8/0/5/10/0/0 (new code)

SR-6

Probe Adapter allowing the installation on the rotor and easy setting of the probe on the field.



SR-6 / ☐ C / ☐ D

C: DISTANCE BETWEEN MACHINE CASING AND HOUSING PROBE ADAPTER
pitch 15 mm - minimum 0 mm - maximum 225 mm

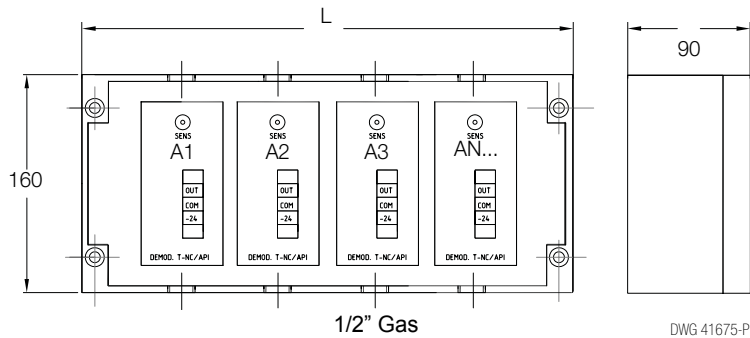
0 0 mm (standard)

D: DISTANCE BETWEEN MACHINE CASING AND ROTOR
pitch 5 mm - minimum 100 mm - maximum 750 mm

250 250 mm (standard)

JB-1

Alu Junction Box IP65 container for TR-NC/8 transmitters.



JB-1 / ☐ A

A: NUMBER OF TRANSMITTER MODULES

1 1 Module L= 160mm

2 2 Modules L= 260mm

4 4 Modules L= 360mm

6 6 Modules L= 560mm

ZENER BARRIER Z787 (FOR HAZARDOUS AREA)

PLASTIC TAG
040STR000

B5MAG10 CY002

STAINLESS STEEL TAG
980710835

B5MAG10 CY002