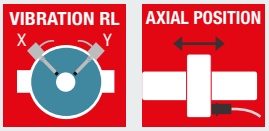
VIBRATION AND AXIAL DISPLACEMENT TRANSMITTER

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 ÷ 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 *(To be ordered separately, see page 3)* ■ Extension cable *(To be ordered separately, see page 3)*
Power supply	■ 24 Vdc (18 ÷ 32 Vdc) current loop 4 ÷ 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÷10.000 Hz (vibration) ■ 0÷500 Hz (displacement)
Linearity	■ ± 2% (range 0,5 ÷ 2,5mm; T=100°C)
Insulation	■ $\geq 10^8$ Ω between signal and container
Possible arrangements to the order	■ Measurement type (vibration, axial displacement) ■ Cable length ■ Measuring range ■ Type of target ■ Type of certification

CEMB
BALANCING MACHINES

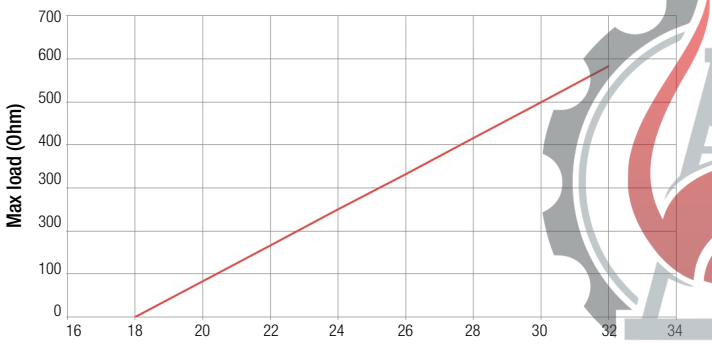
TR-NC/8 TRANSMITTER

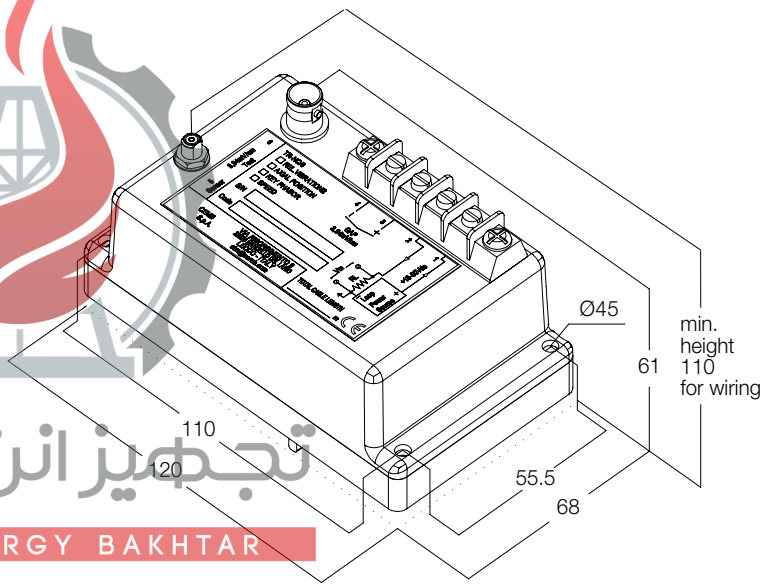
The transmitter is also available as ATEX certified for classified area application

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 / B / C / D / E

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

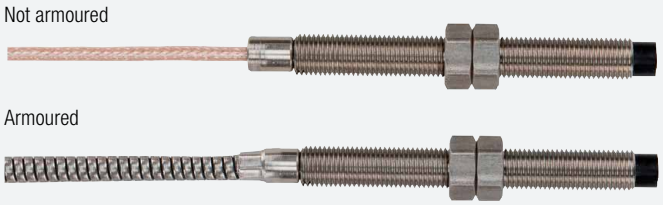
C: TARGET TYPE

1	AISI 4140
2	AISI 410
3	AISI 304
4	AISI 630
5	C45
6	INCOLOY
7	ER7T-ER8
8:	ASTM 276 SDX
9:	ASTM 668 UST-52-3
10:	UNI 18CrNi Mo
11:	UNI 21CrMoV5-7
12:	UNI 23CrMoNiWv88
13:	UNI26NiCvMoV14-5
14:	UNI 35NiCrD15
15:	UNI 36NiCrMo16
16:	DIN 1.4571
17:	DIN 1.4462
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)

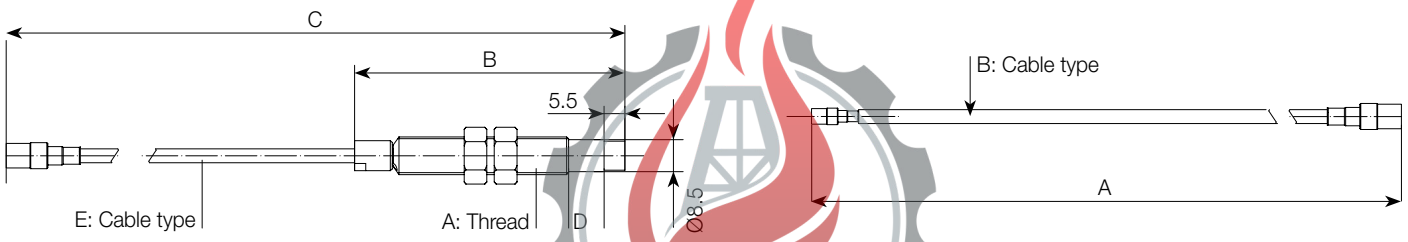
INTEGRATED CABLE TYPES



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 ☐ / B ☐ / C ☐ / D ☐ / E ☐ *

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 ☐ / B ☐ *

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)

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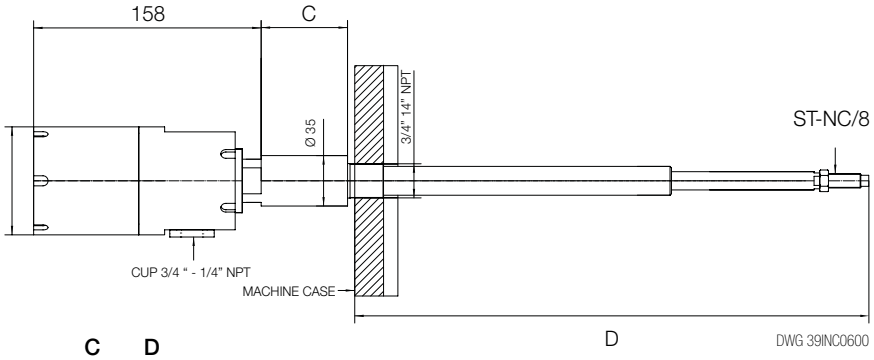
SR-6

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

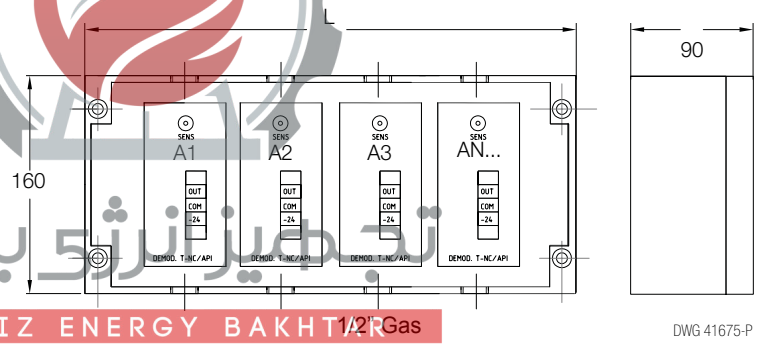
0	0 mm (standard)

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

CEMB
BALANCING MACHINES

ASTM96420

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