

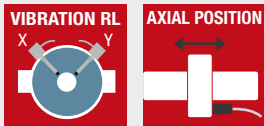
VIBRATION AND AXIAL DISPLACEMENT TRANSMITTER

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 normally composed of ST-NC/8 proximity probe, CPT-NC/8 extension cable and TR-NC/8 transmitter. It is supplied complete with:

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




TECHNICAL CHARACTERISTICS

| | |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Composition | <ul style="list-style-type: none"> ■ ST-NC/8 sensor ■ CPT-NC/8 Extension cable ■ TR-NC/8 transmitter |
| Power supply | <ul style="list-style-type: none"> ■ 24 Vdc ($18 \div 32$ Vdc) current loop $4 \div 20$ mA (2 wires) ■ Maximum load see figure 1 |
| External connection | <ul style="list-style-type: none"> ■ Bipolar shielded cable to terminals POWER +/- |
| Environmental field | <ul style="list-style-type: none"> ■ Sensor $-35^{\circ}\text{C} \div +175^{\circ}\text{C}$ ■ Extension cable $-35^{\circ}\text{C} \div +175^{\circ}\text{C}$ ■ Transmitter $-20^{\circ}\text{C} \div +70^{\circ}\text{C}$ |
| Measurement type | <ul style="list-style-type: none"> ■ Relative vibration ■ Axial displacement |
| Dynamic field | <ul style="list-style-type: none"> ■ $1.5 \div 10.000$ Hz (vibration) ■ $0 \div 500$ Hz (displacement) |
| Linearity | <ul style="list-style-type: none"> ■ $\pm 2\%$ in the whole measuring field and within the limits of the indicated operating temperatures |
| Insulation | <ul style="list-style-type: none"> ■ $\geq 10^8 \Omega$ between signal and container |
| Possible arrangements to the order | <ul style="list-style-type: none"> ■ Measurement type (vibration, axial displacement) ■ Cable length ■ Measuring range ■ Type of target ■ Type of certification |

TR-NC/8 TRANSMITTER

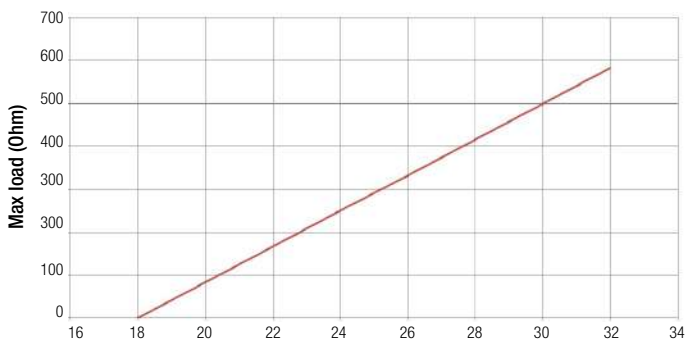
Transmitter is also available as ATEX certified for classified area application

 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: CABLE TOTAL LENGTH

| | |
|---|---------|
| 1 | 5 m |
| 2 | 7 m |
| 3 | 9 m |
| S | special |


C: MEASURING RANGE

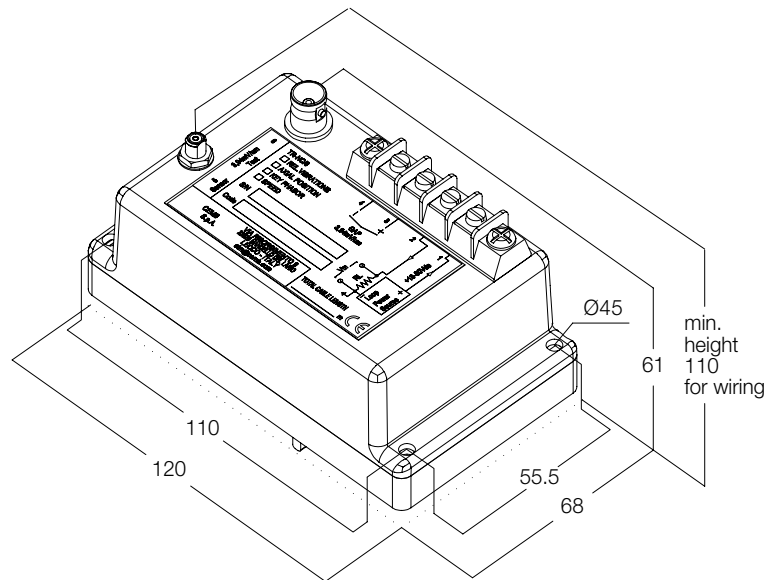
| | |
|----|------------------------------|
| 01 | 0÷100 μm vibration |
| 02 | 0÷125 μm vibration |
| 03 | 0÷200 μm vibration |
| 04 | 0÷250 μm vibration |
| 05 | ± 0,5 mm axial displacement |
| 06 | ± 0,75 mm axial displacement |
| 07 | ± 1 mm axial displacement |
| SP | special |

D: TYPE OF TARGET

| | |
|---|-----------|
| 1 | AISI 4140 |
| 2 | AISI 410 |
| 3 | AISI 304 |
| 4 | AISI 630 |
| 5 | C45 |
| 6 | INCOLOY |
| 7 | ER7T-ER8 |
| 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

Not armoured



Armoured



| | |
|---------------------------------|------------------|
| Material: | Stainless steel |
| Temperature: | -35 ÷ 175°C |
| Thread: | M10 o 3/8" - UNF |
| Body: | 40 mm ÷ 250 mm |
| Oil proof: | Yes |
| Stainless steel armoured cable: | Optional |

EXTENSION CABLE (optional)

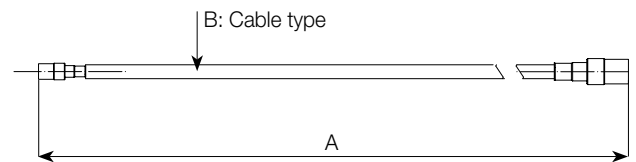
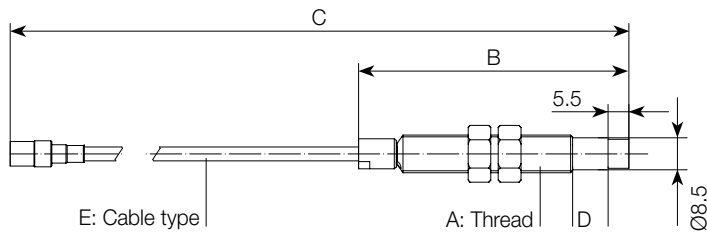
Not armoured



Armoured



Stainless steel armoured cable: Optional



PROBE

ST - NC / 8 / / / / /

A: THREAD TYPE

| | |
|---|------------|
| 0 | M10x1 |
| 1 | 3/8"-24UNF |
| S | special |

B: BODY LENGTH

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

| | |
|---|------------------|
| 5 | 50 mm (standard) |
|---|------------------|

C: TOTAL SENSOR 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 ARMOUR

| | |
|---|--------------|
| 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 |

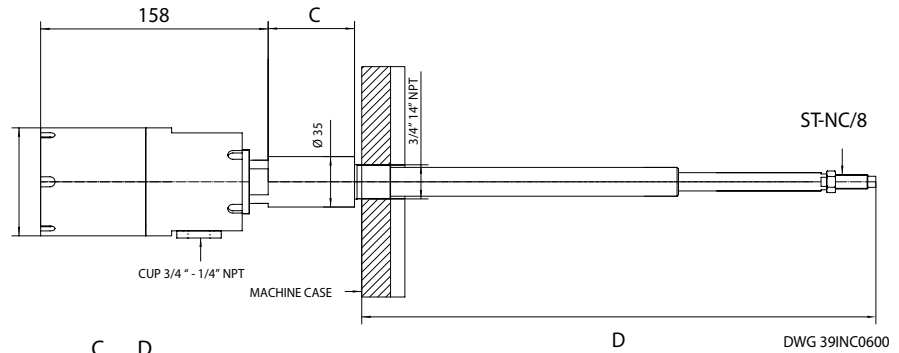
* In the old coding, number zero "0" could be present before the code number.

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

CEMB

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

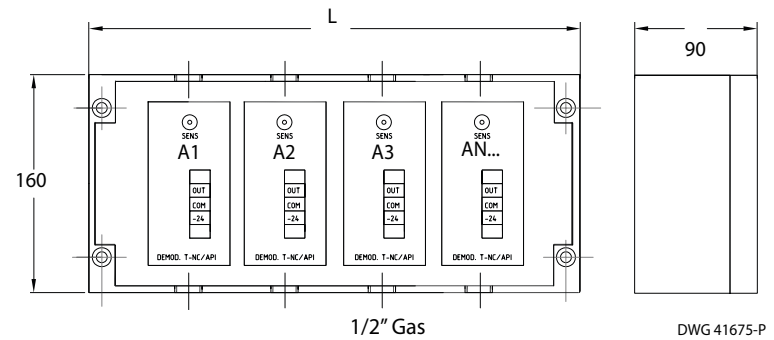
0 0 mm (standard)

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 S.p.A. - Via Risorgimento, 9
23826 Mandello del Lario (LC) - Italy
www.cemb.com



Vibration analysis division:
Phone +39 0341 706111
e-mail: stm@cemb.com

TIRGAN
VIBRATION ANALYSIS & CONDITION MONITORING EQUIPMENT
Address: Unit 6, No. 52, Jouybar St.
Tehran - 1415795361, IRAN
Tel: +98-21-88996358-60 Fax: +98-21-88992367
www.cemb-iran.com
info@cemb-iran.com

ASTM96120 11/17
All the data and features mentioned in this catalogue are purely for information and do not constitute any commitment on the part of our company, which reserves the right to make any and all alterations it may consider suitable without notice.