

## DISPLACEMENT TRANSDUCERS

# T-NC/8-API

The T-NC/8-API transducer measures the distance of a ferrous material from the sensor head. The non-contact type measurement can be both dynamic for vibration measurement and static for displacements.

The measuring chain is composed by a proximity sensor, an extension cable and a converter. The converter is inserted in a box and contains the electronics to power the sensor and signal linearization. The operating principle is based on the generation of a high-frequency electromagnetic field irradiated by the sensor which induces an eddy current in the target. The intensity of this eddy current depends directly on the distance between the sensor and the target and is converted into an electric signal processed by the converter. The sensor is composed of a stainless steel body and a Teflon coaxial cable.




### TECHNICAL CHARACTERISTICS

Measuring Chain	<ul style="list-style-type: none"> <li>■ ST-NC/8 sensor in AISI 304 stainless steel (To be ordered separately, see page 3)</li> <li>■ CPT-NC/8 extension cable (To be ordered separately, see page 3)</li> <li>■ T-NC/8-API converter</li> </ul>
Power supplies	<ul style="list-style-type: none"> <li>■ -24 VDC nominal (-20 to -30 VDC range)</li> </ul>
Connections	<ul style="list-style-type: none"> <li>■ 3-way screw terminal strip</li> <li>■ Miniature coaxial connector for sensor</li> </ul>
Ambient operating range	<ul style="list-style-type: none"> <li>■ Sensor: -55°C to 180°C (ATEX: -55°C to 175°C)</li> <li>■ Extension cable: -55°C to 180°C (ATEX: -55°C to 175°C)</li> <li>■ Converter: -40°C to 80°C (ATEX: -30°C to 80°C)</li> </ul>
Measurement type	<ul style="list-style-type: none"> <li>■ Differential or linear displacement</li> </ul>
Measurement range	<ul style="list-style-type: none"> <li>■ Standard: <math>\pm 1\text{mm}</math> (0,5 ÷ 2,5mm) @ 7.87 mV/<math>\mu\text{m}</math></li> <li>■ Special: <math>\pm 2\text{mm}</math> (0,5 ÷ 4,5mm) @ 3.93 mV/<math>\mu\text{m}</math></li> </ul>
Dynamic range	<ul style="list-style-type: none"> <li>■ Frequency: 0 to 10,000 Hz</li> </ul>
Output signal	<ul style="list-style-type: none"> <li>■ Analogue</li> </ul>
Linearity	<ul style="list-style-type: none"> <li>■ <math>\pm 1\%</math> (range 0,5 ÷ 2,5mm; T=100°C)</li> </ul>
Nominal sensitivity	<ul style="list-style-type: none"> <li>■ 7.87 mV/<math>\mu\text{m}</math> (200 mV/mil) or 3.93 mV/<math>\mu\text{m}</math> (100mV/mil)</li> </ul>
Output impedance	<ul style="list-style-type: none"> <li>■ 500 Ohm</li> </ul>
Sensitivity to temperature	<ul style="list-style-type: none"> <li>■ According to ANSI/API 670</li> </ul>

# T-NC/8-API TRANSDUCER

The transducer 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) Other materials (optional)
Dynamic field:	0 ÷ 10KHz
Output signal:	analogue
DIN rail:	optional

## TRANSDUCER

T - NC / 8-API /  /  /  /

### A: CALIBRATION LENGTH

1	1 m
3	3 m
5	5 m
7	7 m
9	9 m


### B: NOMINAL SENSITIVITY

1	standard 7,87 mV/μm (200mV/mil)
2	special: 3.93 mV/μm (100mV/mil)

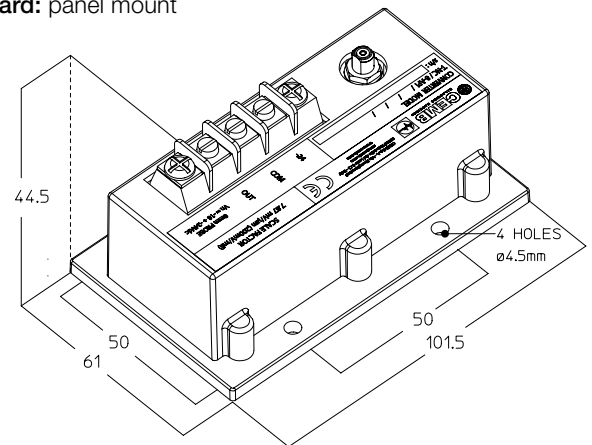
### C: TARGET TYPE

1	AISI 4140	11:	UNI 21CrMoV5-7
2	AISI 410	12:	UNI 23CrMoNiWv88
3	AISI 304	13:	UNI 26NiCvMoV14-5
4	AISI 630	14:	UNI 35NiCrD15
5	C45	15:	UNI 36NiCrMo16
6	INCOLOY	16:	DIN 1.4571
7	ER7T-ER8	17:	DIN 1.4462
8:	ASTM 276 SDX	18:	DIN 1.7225
9:	ASTM 668 UST-52-3	S:	speciale
10:	UNI 18CrNi Mo		

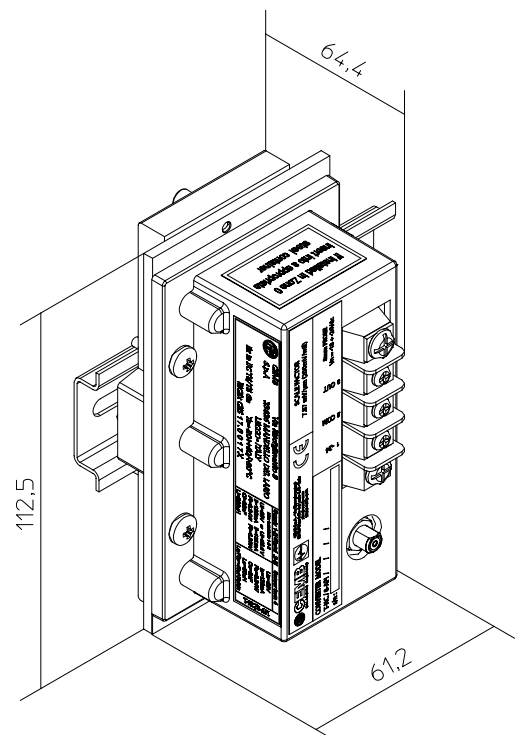
### D: CERTIFICATION TYPE

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

Standard: panel mount



Optional: .../ DIN - Din rail mount



## INTEGRATED CABLE TYPES

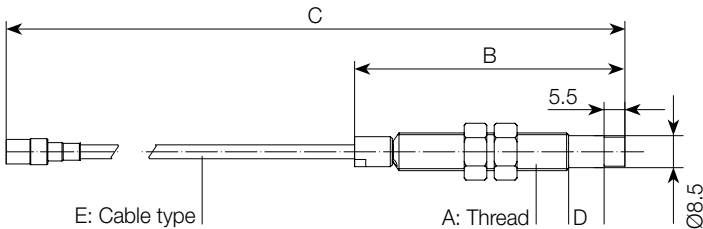


Material:	Stainless steel
Thread:	M10 o 3/8" - UNF
Body:	40 mm ÷ 250 mm
Oil proof:	Yes
Stainless steel armoured cable:	Optional

## EXTENSION CABLE (optional)



Stainless steel armoured 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)
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#### C: TOTAL LENGTH (BODY + CABLE)

pitch 500 mm – minimum 500 mm (5) – maximum 9000 mm (90)

10	1000 mm (standard)
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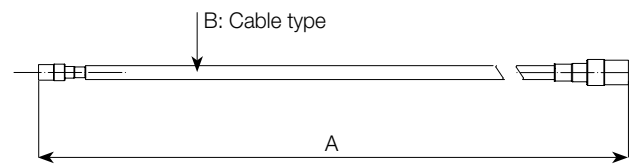
#### D: UNTHREADED PART LENGTH (ONLY FOR M10X1)

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

0	0 mm (standard)
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#### 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)
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#### B: CABLE ARMATURE

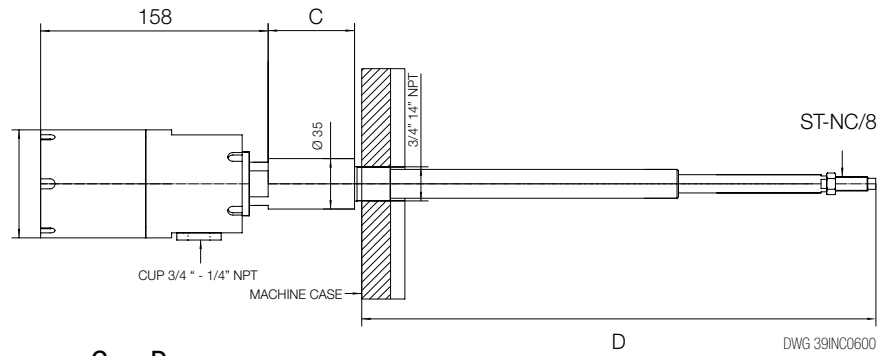
0	not armoured
1	armoured

\* 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

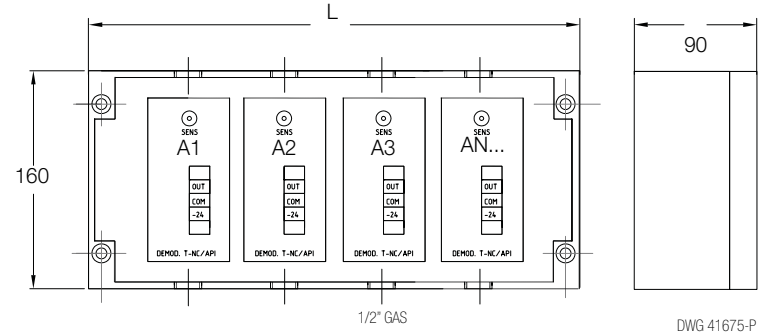
**C:** DISTANCE BETWEEN MACHINE CASING AND HOUSING PROBE ADAPTER  
pitch 15 mm - minimum 0 mm - maximum 225 mm

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

\* others adapters are also available under request

**JB-1**

Alu Junction Box IP65 container for T-NC/8 API.



JB-1 /  A

**A:** NUMBER OF MODULES

1	1 Module	L= 160mm
2	2 Modules	L= 260mm
4	4 Modules	L= 360mm
6	6 Modules	L= 560mm



**DIN RAIL ADAPTER**  
440555960+667003132

**ZENER BARRIER Z896 (FOR HAZARDOUS AREA)**  
800208896

**PLASTIC TAG**  
040STR000

B5MAG10 CY002

**STAINLESS STEEL TAG**  
980710835

B5MAG10 CY002



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