



TRANSDUCER CONDITIONING INTERFACE

TCI is a line of transducer conditioning interfaces composed of three models featuring one, four, eight channels respectively.

It has been developed with technical and functional features particularly suitable to convert a position or dimensional measurement carried out by LVDT or HBT transducers

into a signal compatible with most of the analog cards for data acquisition. The output of this unit provides a direct electric signal (voltage or current), proportional to the measurement value of the sensor at the input stage. The output signal can be fetched by PLC analog cards, in order to control and manage process automations and to be further elaborated by systems such as SCADA supervisors.

TCI interfaces are PLUG&PLAY units. They are delivered specifically calibrated for the sensor to be connected to. In this way the machine downtime is dramatically reduced, thanks to quicker installation and maintenance operations.

SENSORS COMPATIBILITY

Both LVDT (full bridge) and HBT(half bridge) sensors can be connected to the TCI. The compatibility is also extended to other brands such as Solartron, Tesa, etc. The specifications of the transducer model/brand to be connected to the TCI are required on the purchase order, in order to perform an ad-hoc calibration.

OUTPUT SIGNAL

Two different output signals are available:

- Voltage ($\pm 5\text{Vdc}$, $\pm 10\text{Vdc}$, $0-10\text{Vdc}$)
- Current ($4-20\text{mA}$).

POWER SUPPLY

The electrical supply is provided by the same connector used for the output signal. The TCI can be ordered both in dual voltage mode ($\pm 15\text{Vdc}/\pm 12\text{Vdc}$) and single voltage mode (24Vdc)

How to ORDER

The code to order a TCI 1 is defined by means of the following specifications.

1. Transducer type (LVDT or HBT)
2. Number of channels
3. Measuring range of the sensor
4. Power supply type
5. Compatibility (*)
6. Output type

EXAMPLE

6	7	4	6	T	N	X	A	C	U
6	7	4	6	0	0	1	1	0	2
LVDT									
1 CHANNEL									
±1 mm									
24 V									
MARPOSS									
CURRENT 4-20 mA									

	6 7 4 6	T	N	X	A	C	U	
TRANSDUCER TYPE	LVDT HBT	0 1						
NUMBER OF CHANNELS	1 CH	0						
	4 CH	2						
	8 CH	3						
MEASURING RANGE	±0,5			0				
	±1			1				
	±1,5			2				
	±2,5			3				
	±5			4				
POWER SUPPLY	±15 V / ±12 V 24 V			0 1				
COMPATIBILITY (*)	MARPOSS							0
	MICROCONTROL							1
	SOLARTRON							2
	MERCER							3
OUTPUT SIGNAL	TESA				4			
	±5 V				0			
	±10 V				1			
	4-20 mA				2			
	0 - 10 V				3			

NOTE. (*) If the transducer type is not included in the list, please contact your nearest MARPOSS office to define the specific order code.

TECHNICAL SPECIFICATIONS

MECHANICAL SPECIFICATIONS

	TCI-1	TCI-4/TCI-8
PROTECTION DEGREE (WITH CONNECTORS PLUGGED IN):	IP52	IP54
WEIGHT:	0,14 kg	0,8 kg
DIMENSIONS	see figure below	
OPERATING TEMPERATURE:	0°/+ 50 °C	
STORING TEMPERATURE:	-25°/+ 75 °C	
OPERATING RELATIVE HUMIDITY (NOT CONDENSING):	20% - 80%	
STORING RELATIVE HUMIDITY (NOT CONDENSING):	10% - 95%	

ELECTRICAL SPECIFICATIONS

	TCI-1	TCI-4/TCI-8
LINEARITY ERROR:	max 0.05% of the end scale	max 0.1% of the end scale
GAIN DRIFT:	max 0.02% °C of the end scale	max 0.04% °C of the end scale
OFFSET DRIFT:	max 0.02% °C of the end scale	max 0.01% °C of the end scale
POWER SUPPLY REJECTION RATIO (GAIN+OFFSET):	max 0.04% / V of the end scale (voltage: ±15V)	
OUTPUT RIPPLE (AF SPIKE EXCLUDED):	max 10 mV rms voltge output	
	20 µA rms current output	15 µA rms current output
TRANSDUCER FREQUENCY:	Typical 5.1 KHz	Typical 5.0 KHz
TRANSDUCER VOLTAGE SUPPLY:	Typical 3.3 Vrms	Typical 3.4 Vrms
TRANSDUCER CURRENT SUPPLY:	Max 30 mA	
BANDWIDTH:	Typical 500 Hz	

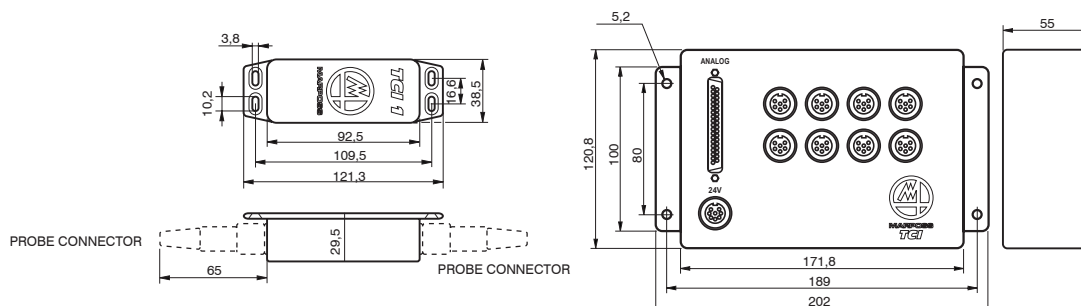
VOLTAGE SUPPLY

	TCI-1	TCI-4/TCI-8
±15 V	Dual filtered and stabilised ±15 Vdc ±5% Max. ripple allowed at 100/120 Hz: 50 mVpp	
Typical consume with transducer connected:	Voltage output: ± 20 mA Current output: ±40 mA	Voltage output: ± 270 mA max. Current output: ±450 mA max.
±12 V (IF CONFIGURED WITH A TENSION OUTPUT SIGNAL)	±12 Vdc ±5% Max. ripple allowed at 100/120 Hz: 50 mVpp	
Typical consume with transducer connected:	Voltage output: ± 20 mA Not available with current output	Voltage output: ± 270 mA max. Current output: ±450 mA max.
+24 V	Single 24 Vdc ±10% Max. ripple allowed at 100/120 Hz: 200 mVpp	
Typical consume with transducer connected:	Voltage output: 45 mA Current output: 65 mA	Voltage output: 300 mA max. Current output: 500 mA max.

OUTPUT SIGNAL

	TCI-1	TCI-4/TCI-8
TENSION MODE	±5V	Maximum output current ±1 mA
	±10V	Maximum output current ±1 mA
	0-10V	Maximum output current ±1 mA
CURRENT MODE	4/20 mA	Load impedance max. 250 ohm, min. 100 ohm

DIMENSIONS



For a full list of address locations, please consult the Marposs official website

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