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# CST 113

## Signal Converter I/U and I/I

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### FEATURES

- Signal converter to be used with Magtrol DI Series Contactless Displacement Transducers as well as with LE Series Load Measuring Pins
- Wide number of possibilities to select functions (polarity) and signal ranges (offset and gain)
- Fast calibration in one displacement, with independent settings
- Transducer supply current up to 80 mA
- Outputs: 0 to  $\pm 10$  VDC, 0 to 20 mA (4 to 20 mA) or  $\pm 10$  to 0 VDC, 20 to 0 mA (20 to 4 mA)
- Available with either a plastic housing, for mounting on a DIN rail, or housed in aluminum IP 65



### DESCRIPTION

The CST 113 is a signal converter for transducers delivering a signal of 4 to 20 mA. The converter output can be chosen as follows: a voltage-based signal (I/U conversion) or a current-based signal (I/I), either with signal inversion if required. A wide variety of offset and gain values can be selected, matching many different applications. The use of micro switches (DIP switches) and potentiometers enable easy on-site adjustments and the independent settings make it possible to calibrate the CST 113 in one displacement, from the minimal to the maximum position of the jack.

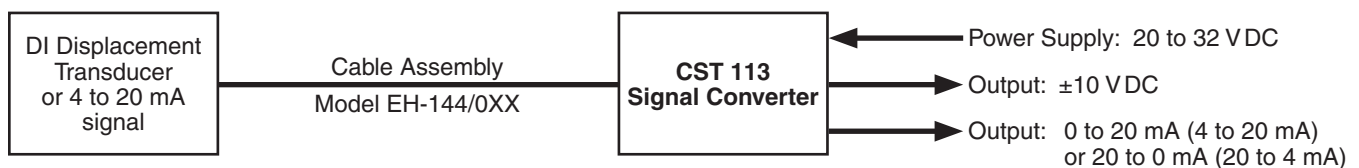
A “transmission OK” output enables the electrical connection between the DI transducer and the CST 113 Converter to be

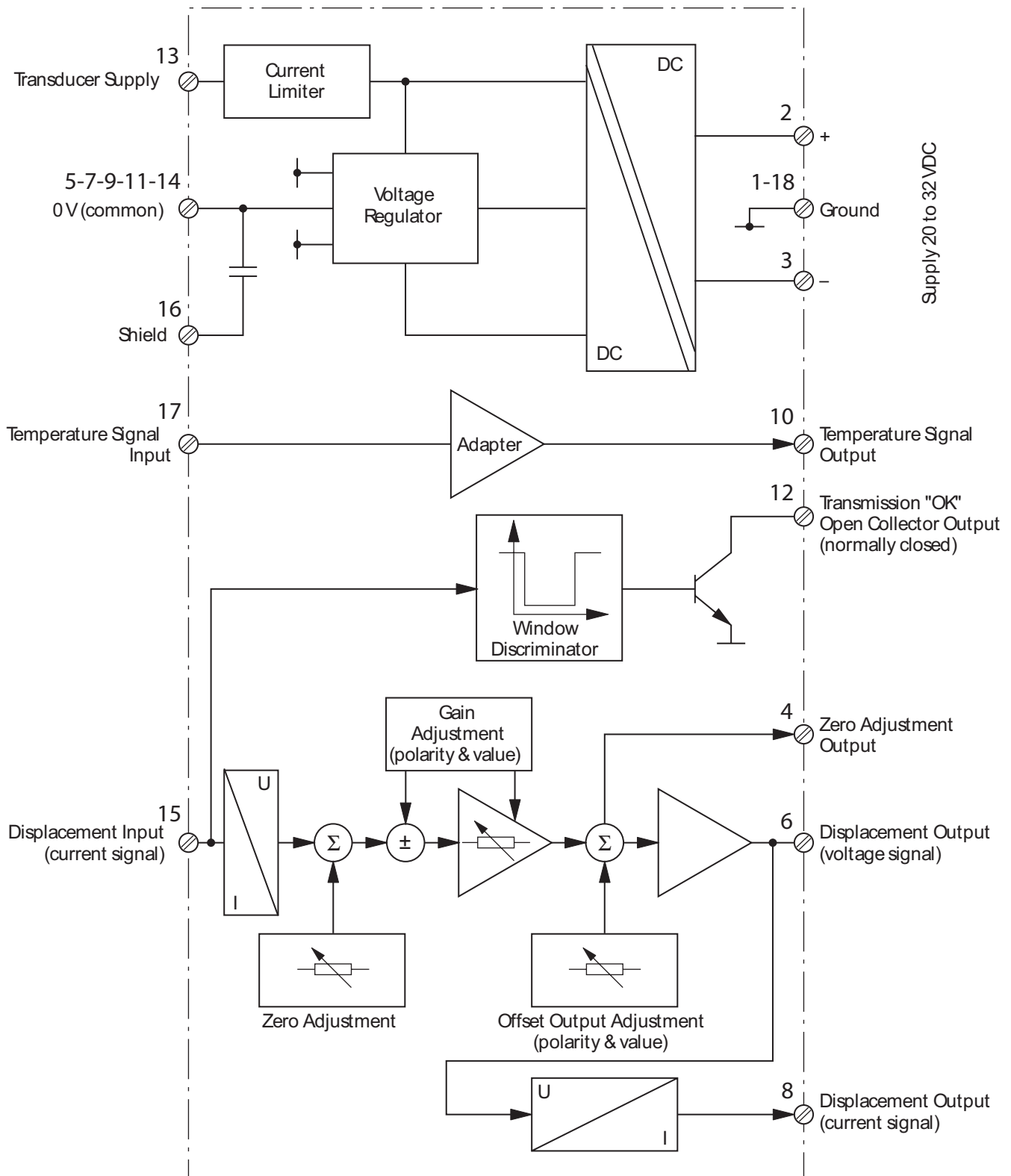
checked, thus allowing the system to be used in applications where safety is important. This operation is simply carried out by measuring the current coming from the DI transducer. An anomaly is indicated by the opening of the output transistor.

The CST 113 power supply input features a galvanic separation to electrically isolate the power supply ground from the measuring chain ground. The CST 113 circuitry is located in a plastic housing which can be mounted on a DIN EN 20022 - EN 50035 rail or fixed in an aluminium housing.

### SYSTEM CONFIGURATION

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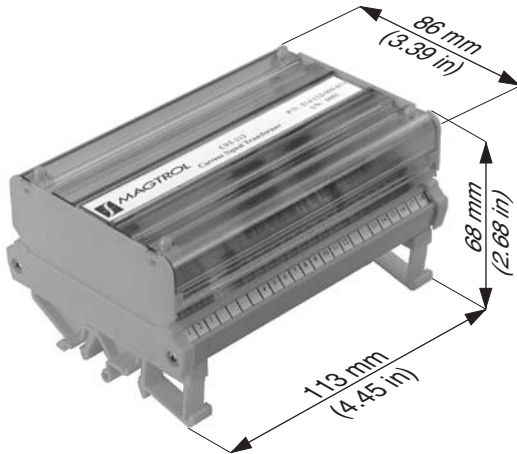


<b>CONVERTER SUPPLY</b>	
<b>Voltage</b>	20 to 32 VDC (galvanic separation between supply input and circuit )
<b>Current</b>	< 200 mA
<b>TRANSDUCER SUPPLY</b>	
<b>Voltage</b>	24 V $\pm$ 1 V
<b>Current</b>	80 mA max.
<b>INPUT SIGNALS</b>	
<b>Displacement Signal</b>	4 to 20 mA nominal 2 to 22 mA max.
<b>Temperature Signal</b>	0 to 10 VDC
<b>OUTPUT SIGNALS</b>	
<b>Displacement Voltage Signal</b> <ul style="list-style-type: none"> <li>• Working Range</li> <li>• Output Resistance</li> <li>• Maximum Current</li> <li>• Setting range of Offset Voltage (output)</li> <li>• Setting Range of Transfer (gain)</li> <li>• Thermal Stability Between 0 and +55°C</li> </ul>	$\pm$ 10 VDC 100 $\Omega$ 2 mA -10 to +10 VDC +0.26 V/mA to +3.12 V/mA or -0.26 V/mA to -3.12 V/mA 150 ppm/°C typical
<b>Displacement Current Signal</b> <ul style="list-style-type: none"> <li>• Working Range</li> <li>• Type</li> <li>• Maximum load</li> <li>• Setting Range of Offset Current (output)</li> <li>• Setting Range of Transfer (gain)</li> <li>• Thermal Stability Between 0 and +55°C</li> </ul>	0 to 20 mA (4 to 20 mA) or 20 to 0 mA (20 to 4 mA) single pole current source $\leq$ 500 $\Omega$ 0 to 20 mA +0.52 mA/mA to +6.24 mA/mA or -0.52 mA/mA to -6.24 mA/mA 150 ppm/°C typical
<b>Temperature Signal</b> <ul style="list-style-type: none"> <li>• Working Range</li> <li>• Output Resistance</li> <li>• Maximum Current</li> <li>• Transfer</li> </ul>	$\pm$ 10 VDC 100 $\Omega$ 2 mA 100 mV/°C (2 VDC $\equiv$ 20 °C)
<b>Transmission OK</b>	Open collector (20 mA max.)
<b>ENVIRONMENT</b>	
<b>Plastic Housing</b> <ul style="list-style-type: none"> <li>• Operating Temperature</li> <li>• Storage Temperature</li> <li>• Humidity</li> <li>• Vibration and Shock</li> <li>• EMC</li> </ul>	0 to +55 °C -20 to +70 °C Max. 95% without condensation 2 g / 10 to 55 Hz According to EN-50081-2 (Generic Emission Standard) and EN-50082-2 (Generic Immunity Standard)
<b>Aluminum Housing</b> <ul style="list-style-type: none"> <li>• Operating Temperature</li> <li>• Storage Temperature</li> <li>• Humidity</li> <li>• Vibration and Shock</li> <li>• EMC</li> </ul>	-40 to +80 °C -45 to +85 °C IP 65 According to IEC 68.2 According to EN-58081-2 (Generic Emission Standard) and EN-58082-2 (Generic Immunity Standard)
<b>MECHANICAL CHARACTERISTICS</b>	
<b>Plastic Housing</b> <ul style="list-style-type: none"> <li>• Weight</li> </ul>	$\approx$ 0.2 kg / $\approx$ 0.441 lb
<b>Aluminum Housing</b> <ul style="list-style-type: none"> <li>• Type</li> <li>• Stuffing Glands</li> <li>• Weight</li> </ul>	A123 3 $\times$ PG 11 $\approx$ 2 kg / $\approx$ 4.41 lb

## DIMENSIONS

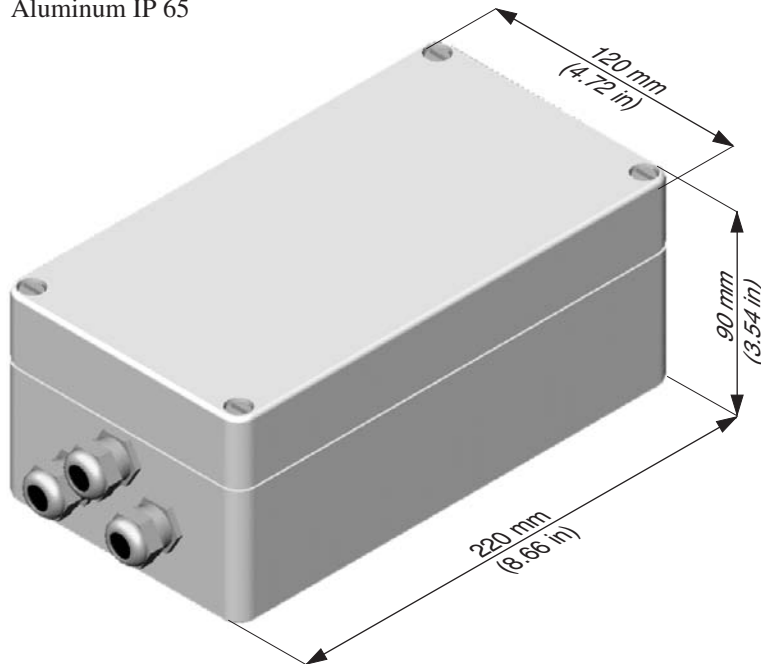
### Plastic Housing (CST 113 / 011)

For mounting on a DIN rail



### Aluminum Housing (CST 113 / 021)

Aluminum IP 65



## ORDERING INFORMATION

PART NUMBER	MODEL	DESCRIPTION
214-113-000-011	CST 113 / 011	Signal Converter I/U and I/I with plastic housing
214-113-000-021	CST 113 / 021	Signal Converter I/U and I/I with aluminum IP 65 housing

### Accessory Ordering Information

CABLE	Part Number
4-Core Connection Cable	
• Radox K-414	957.37.22.2666

MATING PLUG (5-pole)	Part Number
• Straight	957.11.08.0122
• Right-Angle (90°)	957.11.08.0132

### CONNECTION CABLE ASSEMBLY (K-414 cable with 5-pole mating plug)

Part Number: EH 14  / 0  1

Mating Plug	
• Straight	4
• Right-Angle (90°)	5

Cable Length	
• 3 m	1
• 5 m	2
• 10 m	3

### DISPLAYS AND INDICATORS (On request)

Due to the continual development of our products, we reserve the right to modify specifications without forewarning.



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