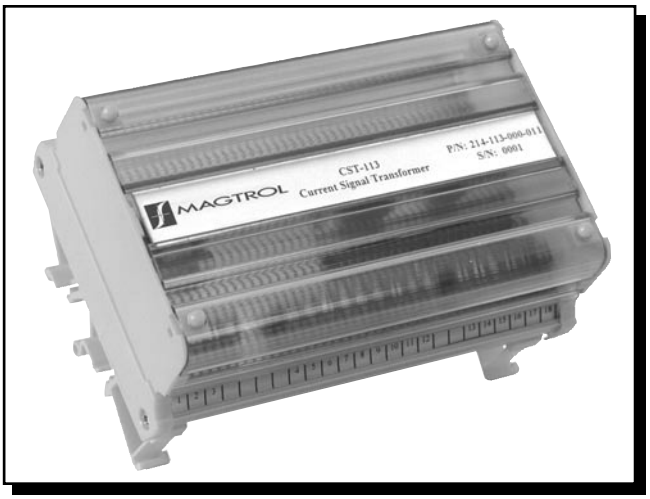
CST 113
Signal Converter I/U and I/I

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 ±10 V DC, 0 to 20 mA (4 to 20 mA) or ±10 to 0 V DC, 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



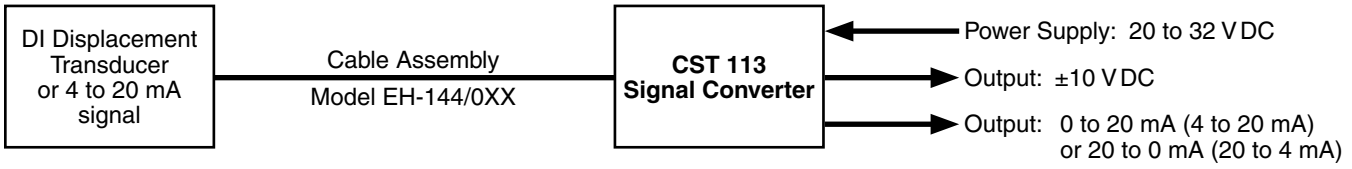
DESCRIPTION

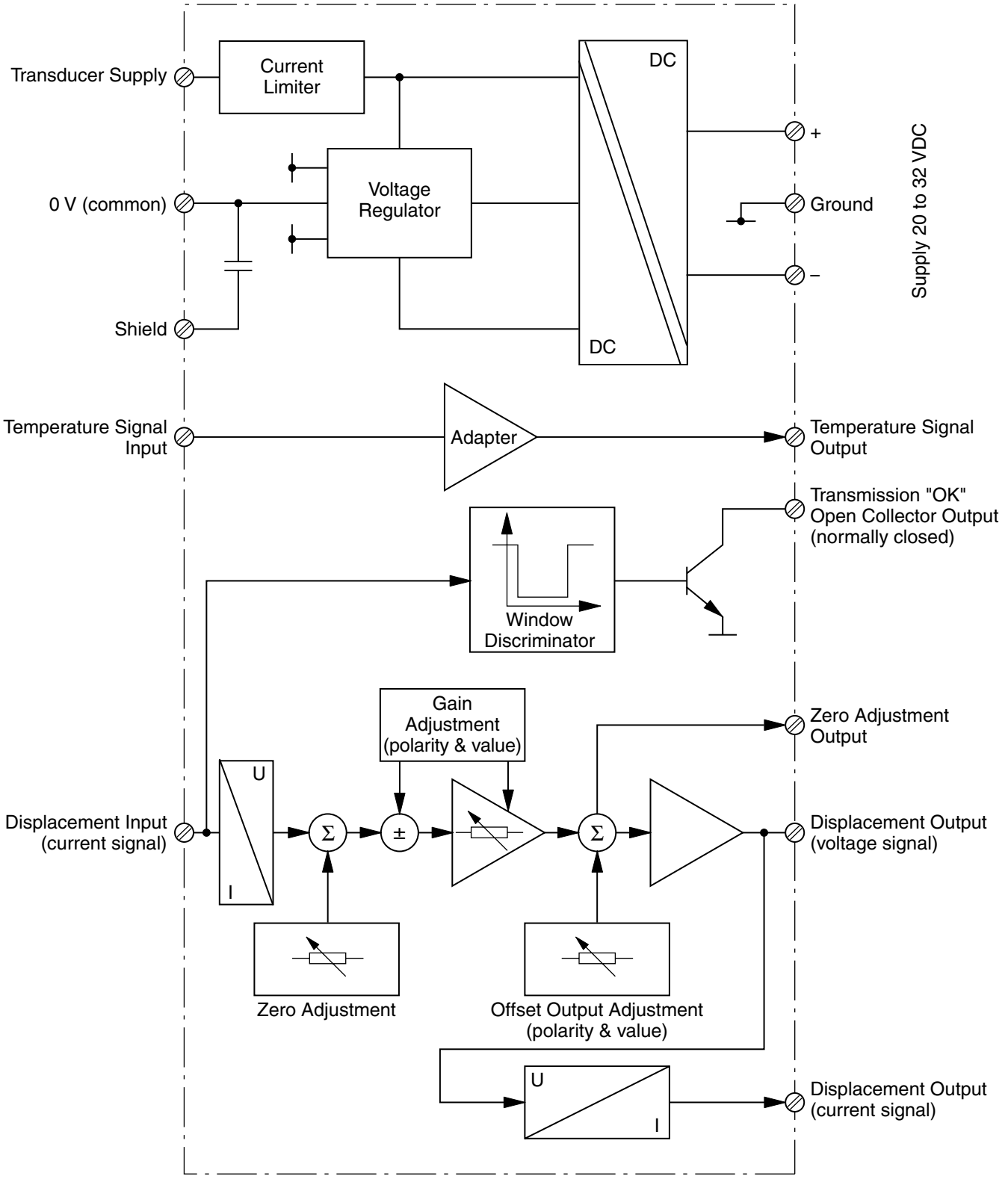
The CST 113 is a signal converter for transducers delivering a signal of 4 to 20 mA. The converter output can be chosen as follows: a voltage-based signal (I/U conversion) or a current-based signal (I/I), either with signal inversion if required. A wide variety of offset and gain values can be selected, 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



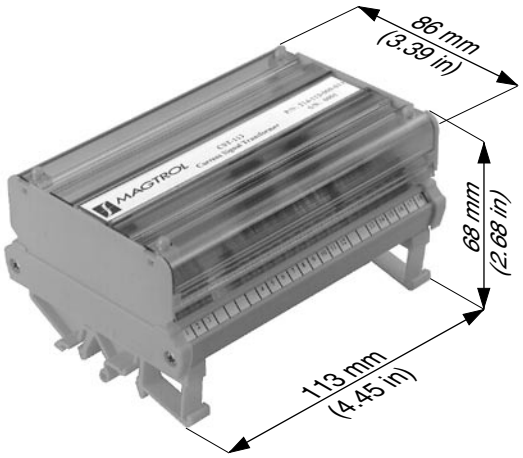

Transducer Supply
Current Limiter
DC
+
Ground
–
Supply 20 to 32 VDC
0 V (common)
Voltage Regulator
Shield
DC
Temperature Signal Input
Adapter
Temperature Signal Output
Transmission "OK" Open Collector Output (normally closed)
Window Discriminator
Gain Adjustment (polarity & value)
Zero Adjustment Output
U
Displacement Input (current signal)
Σ
±
Σ
Displacement Output (voltage signal)
I
Zero Adjustment
Offset Output Adjustment (polarity & value)
U
Displacement Output (current signal)
I

CONVERTER SUPPLY	
Voltage	20 to 32 V DC (galvanic separation between supply input and circuit)
Current	< 200 mA
TRANSDUCER SUPPLY	
Voltage	24 V ±1 V
Current	80 mA max.
INPUT SIGNALS	
Displacement Signal	4 to 20 mA nominal 2 to 22 mA max.
Temperature SIgnal	0 to 10 V DC
OUTPUT SIGNALS	
Displacement Voltage Signal • Working Range • Output Resistance • Maximum Current • Setting range of Offset Voltage (output) • Setting Range of Transfer (gain) • Thermal Stability Between 0 and +55°C	 ±10 V DC 100 Ω 2 mA -10 to +10 V DC +0.26 V/mA to +3.12 V/mA or -0.26 V/mA to -3.12 V/mA 150 ppm/°C typical
Displacement Current Signal • Working Range • Type • Maximum load • Setting Range of Offset Current (output) • Setting Range of Transfer (gain) • Thermal Stability Between 0 and +55°C	 0 to 20 mA (4 to 20 mA) or 20 to 0 mA (20 to 4 mA) single pole current source ≤ 500 Ω 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
Temperature Signal • Working Range • Output Resistance • Maximum Current • Transfer	 ±10 V DC 100 Ω 2 mA 100 mV/°C (2 V DC ≡ 20 °C)
Transmission OK	Open collector (20 mA max.)
ENVIRONMENT	
Plastic Housing • Operating Temperature • Storage Temperature • Humidity • Vibration and Shock • EMC	 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)
Aluminum Housing • Operating Temperature • Storage Temperature • Humidity • Vibration and Shock • EMC	 -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)
MECHANICAL CHARACTERISTICS	
Plastic Housing • Weight	 ≈ 0.2 kg / ≈ 0.441 lb
Aluminum Housing • Type • Stuffing Glands • Weight	 A123 3 × PG 11 ≈ 2 kg / ≈ 4.41 lb

DIMENSIONS

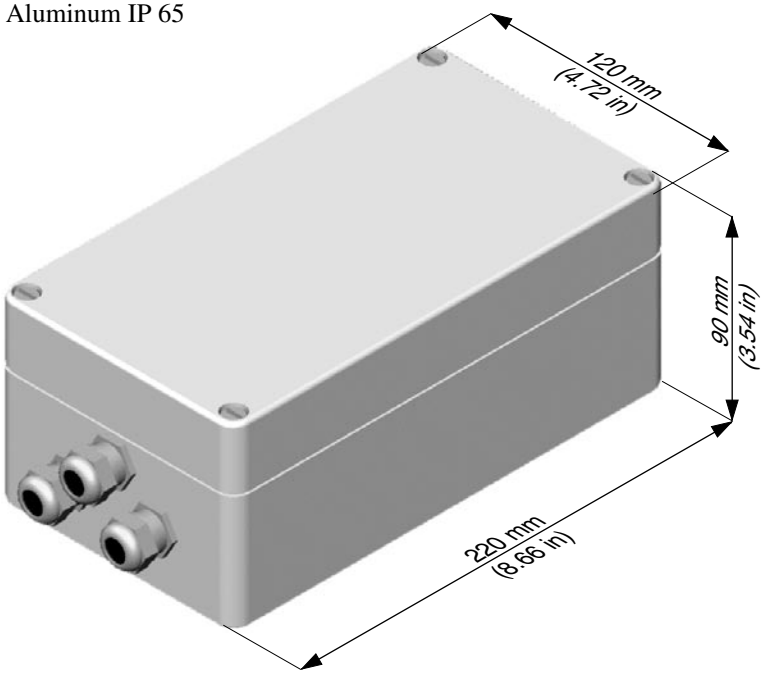
Plastic Housing (CST 113 / 011)

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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- Great Britain
- China

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Certified ISO 9001 : 2000 by BVQI n° 150887

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