

## Current Transducer CD 100-S/SP5

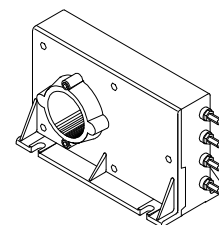
For the electronic measurement of differential currents between 2 primary conductors carrying D.C. currents of opposite values, with a galvanic isolation between the primary circuit (high power) and the secondary circuit (electronic circuit).

$$I_{PN} = 2 \times 1000 \text{ A}$$

$$I_{PD} = 0 \dots \pm 2 \text{ A}$$



Preliminary



### Electrical data

$I_{PN}$	Primary nominal r.m.s. current	2 x 1000	A
$I_{PD}$	Primary differential current, measuring range	0 .. ± 2	A
$V_C$	Supply voltage (± 5 %)	± 15	V
$V_{OUT}$	Analog output voltage @ $I_{PDmax}$	± 5	V
$I_C$	Maximal current consumption	60	mA
$R_L$	Load resistance	> 1	kΩ
$V_d$	R.m.s. voltage for AC isolation test <sup>1)</sup> , 50 Hz, 1 mn	6	kV

### Features

- Closed loop (compensated) current transducer
- Insulated plastic case recognized according to UL 94-V0
- Patent pending.

### Accuracy - Dynamic performance data

$X_G$	Overall accuracy @ $T_A = -40^\circ\text{C} \dots +85^\circ\text{C}$	(2.0 A)	± 2.5	%
		(1.0 A)	± 4.0	%
		(0.06 A)	± 25.0	%
$t_a$	Time constant @ 63 %	(± 20 %)	100	μs
$f$	Frequency bandwidth (- 3 dB) @ $I_{PD} = 2 \text{ A}$	(± 20 %)	DC .. 5	kHz

### Special features

- $I_{PN} = 2 \times 1000 \text{ A}$
- $T_A = -40^\circ\text{C} \dots +85^\circ\text{C}$ .

### Advantages

- Excellent accuracy
- Very good linearity
- Low temperature drift
- Optimized response time
- Wide frequency bandwidth
- No insertion losses
- High immunity to external interference
- Current overload capability.

### General data

$T_A$	Ambient operating temperature	- 40 .. + 85	°C
$T_S$	Ambient storage temperature	- 40 .. + 100	°C
$m$	Mass	1	kg
	Standards <sup>2)</sup>	EN 50155	

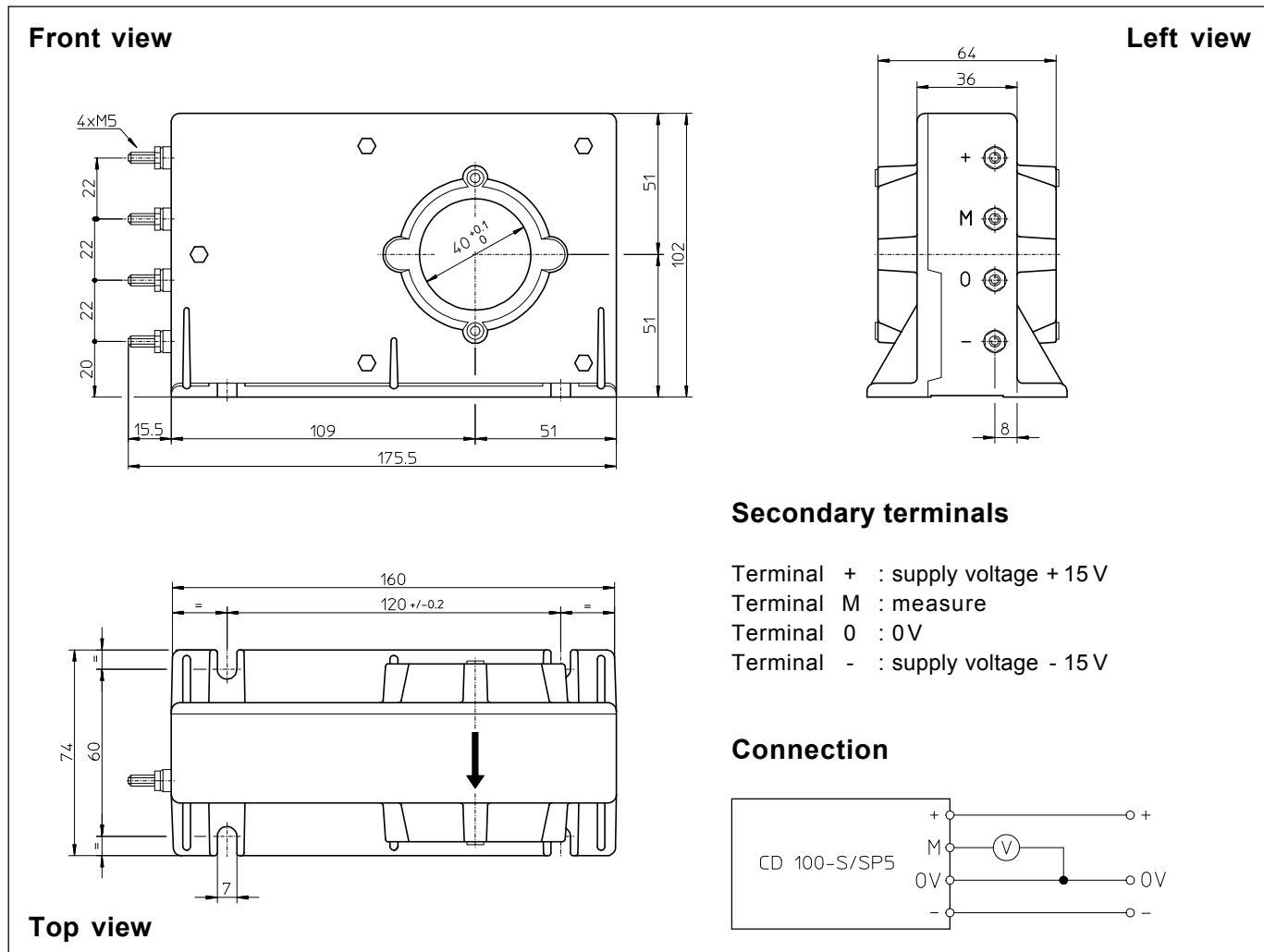
### Application

- Railway security system.

Notes : <sup>1)</sup> Between primary and secondary.

<sup>2)</sup> A list of corresponding tests is available.

## Dimensions CD 100-S/SP5 (in mm. 1 mm = 0.0394 inch)



## Mechanical characteristics

- |                           |                        |
|---------------------------|------------------------|
| • General tolerance       | ± 0.5 mm               |
| • Fastening               | 4 holes Ø 7.0 mm       |
| • Primary through-hole    | Ø 40 mm                |
| • Connection of secondary | M5 threaded studs      |
| Fastening torque          | 2.2 Nm or 1.62 Lb - Ft |

## Remarks

- $V_{OUT}$  is positive when  $I_{PD}$  flows in the direction of the arrow.
- The two primary conductors should be positioned so that their centers are separated by 20 mm maximum, to insure the indicated accuracy.
- When the differential current is high (> 2 A), the magnetic measuring cores are saturated and the output signal is maintained at "+" or "-" by a memory. The sign corresponds normally to the direction of the differential current, except upon rapid current inversion.