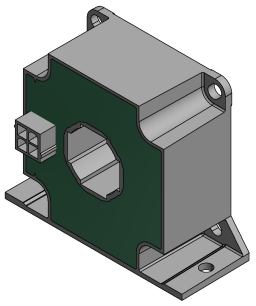
Faiveley Mors Smitt
A Wabtec Company

TECHNICAL SPECIFICATION

MSA305-S-0020

DESIGNATION
CURRENT TRANSDUCER

APPLICATION
TRACTION
POWER APPLICATIONS



DESCRIPTION

Closed loop current transducer used for the measurement of DC and AC currents with high galvanic isolation between the current carrying and the output of the sensor.

ELECTRICAL CHARACTERISTICS

Maximum Voltage	U_P	600 V
Primary nominal r m s current	I_{PN}	300 A
Primary current measuring range	I_P	± 500 A
Output measuring resistance	R_M	21Ω max for 500 A @ 15V 85°C
		40Ω max for 500 A @ 20V 85°C
Secondary nominal r m s current	I_{SN}	150 mA
Conversion ratio	K_N	1:2000
Auxiliary supply voltage	V_C	±12 to ±20 VDC ±5%
Current consumption	I_C	±20m A + I_S @ 15 VDC

Dielectric test between

Primary circuit and secondary circuit + shield	V_{D1}	3.8 kV - 50 Hz - 1 min

ACCURACY - DYNAMIC PERFORMANCE

Overall accuracy @ I_{PN} - T_A=25°C	X_G	± 0.5%
Overall accuracy @ I_{PN} - T_A=[-40°C to +85°C]	X_G	± 1 %
Linearity	ε_L	< 0.1%
Offset current @ I_P=0 - T_A=25°C	I_0	± 0.2 mA max
Thermal drift of I_0 between [-40°C +85°C]	I_{0T}	± 1 mA max
Response time @ 90% of I_{PN} and di/dt 100A/µs	T_r	< 1 µs
di/dt accuracy followed	**di/dt**	> 100 A/µs
Frequency bandwidth (-3 dB)	**f**	DC to 100KHz

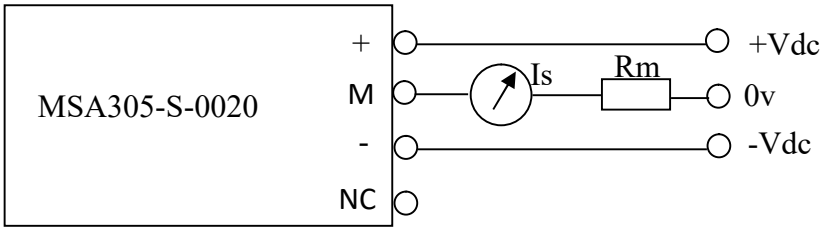
GENERAL CHARACTERISTICS

Operating temperature	T_A	-40 to +85°C
Storing temperature	T_S	-50 to +90°C
Secondary coil resistance @ 85°C	R_S	32 Ω
Weight	**m**	110 g ±5%

REFERENCE STANDARDS

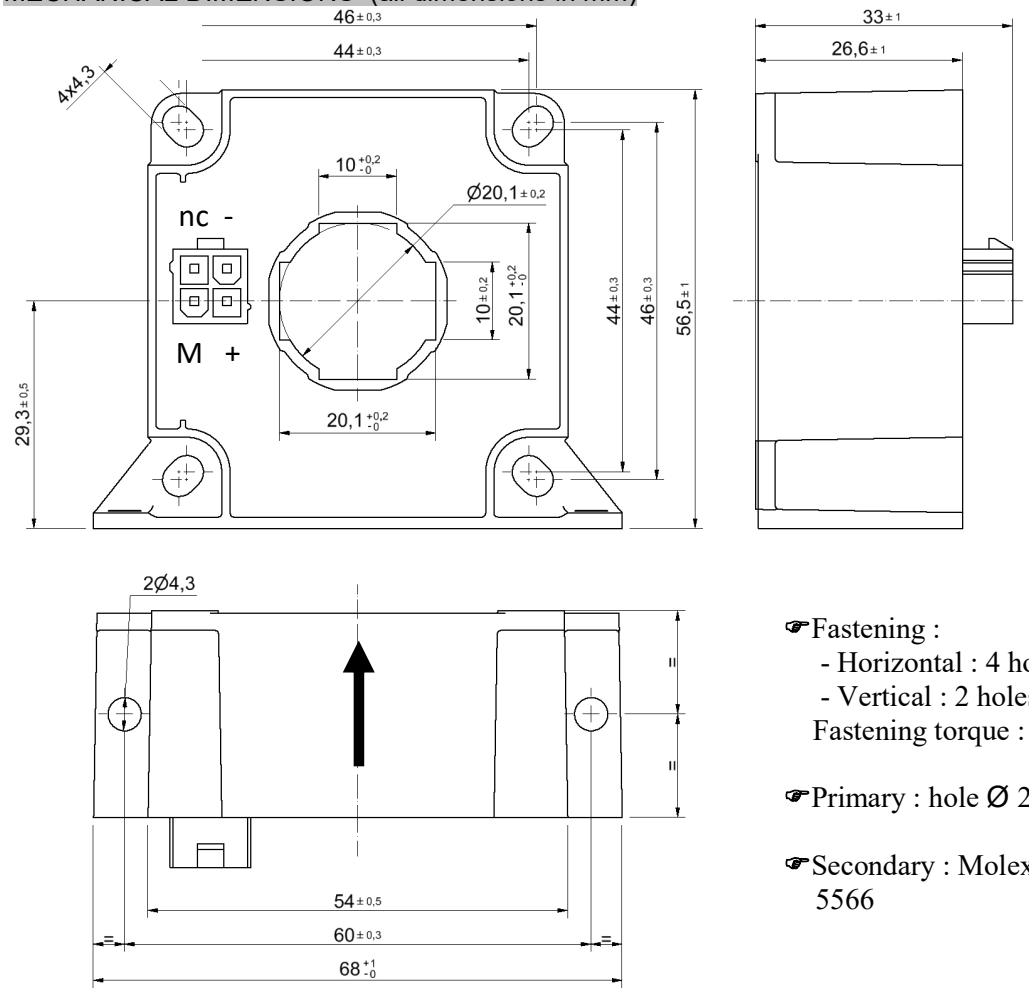
EN 50178 (12-01)	Electronic equipments for use in power installations
EN 50155 (12-01)	Electronic equipment used in rolling stock
Pollution degree	PD2
UL file	E352594

CONNECTIONS



The measuring resistor Rm is determined by the user according to its application.

MECHANICAL DIMENSIONS (all dimensions in mm)



☞Fastening :
- Horizontal : 4 holes Ø 4.3mm.
- Vertical : 2 holes Ø 4.3mm

Fastening torque : 2.2 N.m

☞Primary : hole Ø 20.1mm

☞Secondary : Molex Mini-Fit Jr 5566

☞ To obtain a positive output on the terminal marked “M”, aperture current must flow in the direction of the arrow (conventional flow).
☞ Temperature of the primary conductor should not exceed 100°C

SAFETY

This transducer must be used in electrical or electronic equipment with respect to applicable standards and safety requirements in accordance with the manufacturer’s operating instructions.

When operating the transducer, certain parts (eg. Primary busbar, power supply) can carry hazardous voltage.

MODIFICATION

Edition	Date	Description	N° OC/AE/DMD
A	06/03/2017	First edition	-
A1	12/03/2018	Modification of the connector orientation	

MORS SMITT™

SERVING SAFETY

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