ESM Industry Current Sensor

Utilisation

Sensors to measure d.c., a.c. or pulsating currents with a galvanic insulation between primary and secondary circuits.

ESM1000

Technical data

			Molex HE14 connector JST connector Cables NEW Lockable connector	ESM1000C ESM1000S ESM1000F ESM1000L	ESM1000-9888 ESM1000-9887 ESM1000-9886 ESM1000-9935
Nominal primary current		A r.m.s.		1000	1000
Measuring range	@ ±15V (±5%)	A peak		±1500	±1500
Measuring range	@ ±24V (±5%)	A peak		±1500	±1500
Not measurable overload	10ms/hour	A peak		10000	10000
Max. measuring resistance	@ I_P max & ±15V (±5%)	Ω		-	-
Max. measuring resistance	@ I_P max & ±24V (±5%)	Ω		25	22
Min. measuring resistance	@ I_{PN} & ±15V (±5%)	Ω		0	0
Min. measuring resistance	@ I_{PN} & ±24V (±5%)	Ω		0	11
Turn number				5000	4000
Secondary current at I_{PN}		mA		200	250
Accuracy at I_{PN}	@ +25°C	%		≤±0.5	≤±0.5
Accuracy at I_{PN}	-20 ... +70°C	%		≤±1	≤±1
Offset current	@ +25°C	mA		≤±0.25	≤±0.25
Linearity		%		≤0.1	≤0.1
Thermal drift coefficient	-20 ... +70°C	µA/°C		≤10	≤12.5
Delay time		µs		≤1	≤1
di/dt correctly followed		A / µs		≤100	≤100
Bandwidth	-1dB	kHz		≤100	≤100
Max. no-load consumption current	@ ±24V (±5%)	mA		≤15	≤15
Secondary resistance	@ +70°C	Ω		≤44	≤33
Dielectric strength Primary/Secondary	50 Hz, 1 min	kV		3	3
Supply voltage	±5%	V dc		±15 ... ±24	±15 ... ±24
Voltage drop		V		≤2	≤2
Mass		kg		0.600	0.600
Operating temperature		°C		-20 ...+70	-20 ...+70
Storage temperature		°C		-40 ... +85	-40 ... +85

General data

- Plastic case and insulating resin are self-extinguishing.
- Fixing holes in the case moulding for two positions at right angles.
- Direction of the current: a primary current flowing in the direction of the arrow results in a positive secondary output current from terminal M.

Primary connection

Hole for primary conductor.
The temperature of the primary conductor in contact with the case must not exceed 100 °C.

Secondary connection

- Molex HE14 connector (ref.: 22-11-10 31)
- JST connector (ref.: B3P-VH)
- 3 x 200 mm cables (cross section 0.38 mm²)
- Lockable connector (ref. ABB Entrelec: L253 103 31 000)

Accessories and options

The same as the ES range (see page 15)

Conformity

EN50178

EN61000-6-2

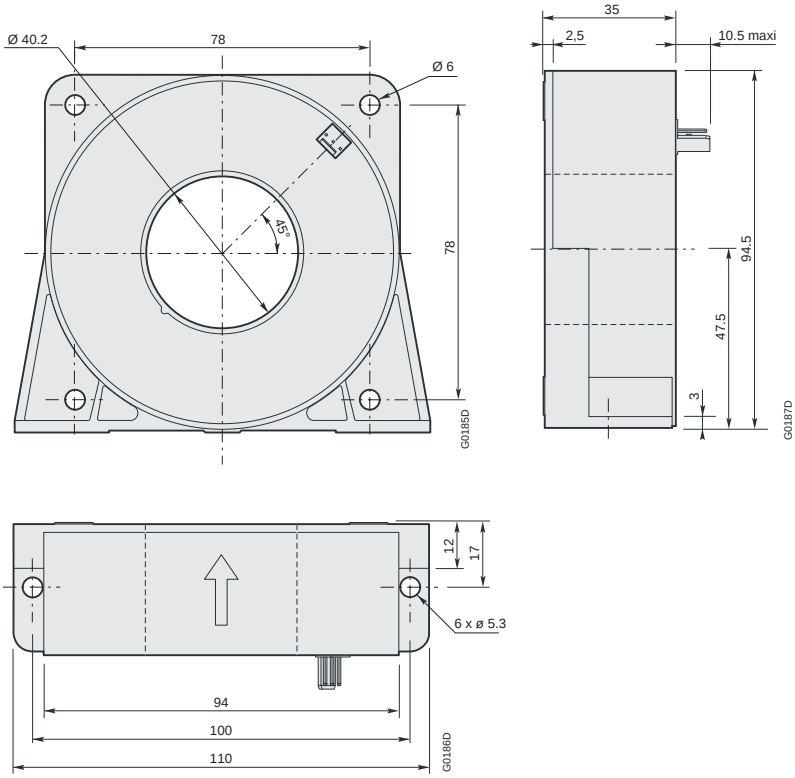
CE

: ESM sensors with cables.
File number: E166814 Vol 1

: ESM sensors with connectors.
File number: E166814 Vol 2

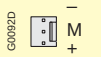
ESM Industry Current Sensor

Dimensions (in mm)

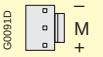


ESM1000C / ESM1000S / ESM1000F / ESM1000L / ESM1000-9888
ESM1000-9887 / ESM1000-9886 / ESM1000-9935

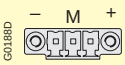
Standard ESM1000… sensor secondary connection



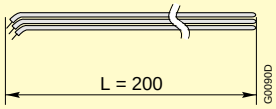
Molex connector
(with 2.54 mm pitch)



JST connector
(with 3.81 mm pitch)



Lockable connector
(with 3.81 mm pitch)



Cable : - Red ..... **+V_A**
- Green ..... **M**
- Black ..... **-V_A**