Switching amplifier
Type 8582 with electronic and relay output

8582

Description

The type 8582 isolating switching amplifier converts binary signals from sensors into switching signals that meet practically all requirements in the sector of electric railways or allow simple adaptation.

The unit contains a high-voltage reed switch with additional protective switching, an electromagnetic relay and an electronic switching stage to handle all kinds of switching applications.

The electronic switching stage allows, for example, the direct control of the quartz-controlled type 8001 timing counter.

Both mechanical sensors (e.g. switching contact) and electronic sensors using two-core cable technology can be connected to the sensor input.

The wide supply voltage range allows direct operation both in DC supply networks with nominal voltages of DC 600 V and DC 750 V with the corresponding tolerances and also with AC supply networks with nominal voltages of AC 463 V / 16 2/3 Hz. The supply voltage connection is galvanically isolated from all inputs and outputs.

The type 8582 isolating switching amplifier finds application in, for example, points heater controllers for anti-frost protection and overtemperature monitoring in connection with temperature sensors, for example, types 8431, 8432 or 8433 including operating hours / time recording in connection with the timing counter type 8001.

Function

The type 8582 switching amplifier derives its internal operating power and the power feed for, for example, the sensor and the timing counter via a universal converter with galvanic separation from the power supply. The use of special components allows the large power voltage range for DC and AC to be handled with optimal protection against overvoltages and with an optimal level of efficiency.

The power supply for the connected sensor is converted internally into a voltage. A comparator compares this voltage with a fixed specified threshold voltage. If the sensor changes its switching state, then a signal current is superimposed on the supply current and thus the threshold voltage at the comparator is exceeded. The outputs of the isolating switching amplifier are then activated after the specified delay period.

Outputs K1 and K3 operate in »working current operation« and output K2 in »quiescent current operation«. The active state is indicated by yellow LEDs, there is a green LED for the supply voltage display.

Ordering information

Type	Part No.
8582 00	420200

Technical data

Dimensions	see figure, WxHxD 145x70x112 mm
Housing	ABS / polycarbonate
Attachment	2 drilled holes as per the drilling template Standard carrying rail in accordance with DIN EN 50022
Type of protection	Housing: IP 40; terminals: IP 20
Connections	2 X 2.5 mm^2 solid as per DIN 46288 or 2 x 1.5 mm^2 with sleeve
Ambient temperature	-20°C to +60°C
Supply voltage	Terminal 31 (L1); terminal 27 (L2) DC 150 V to DC 900 V AC 115 V to AC 600 V
Power drawn	max. 8 W
Sensor connection	resistant to short-circuits, terminal 11 (*); terminal 12 (-)
Nominal voltage	DC 12 V
Max. current (1k)	approx. 25 mA
Switching point	11 mA ± 1 mA
Hysteresis	approx. 4.5 mA
Initiation delay	approx. 1 s (other values on request)
Relay output	1 make-type contact (zero-potential, terminals 2,4 (K1) with varistor protective switching
Voltage	max. DC 900 V
Current	max. 3A
Power	max. 50 W
Relay output	1 make-type contact (zero-potential), terminals 8,9 (K2) AC 250 V 4.0 A cosφ > 0.7 DC 120 V 1.0 A ohmic load
Electronic output	Terminals 14,15 (K3), resistant to short-circuiting
Nominal voltage	DC 12 V
Current	max. 20 mA
Max. current (Ik)	approx. 35 mA
Test voltages	Supply voltage → inputs/outputs 6 kV_{eff} Output terminal → inputs/outputs 6 kV_{eff} Output K2 → sensor/K3 4 kV_{eff} There is no galvanic separation between the sensor connection and the electronic switching output.
Accessories Temperature monitor	see brochure sheets 8432, 8433 and 8434

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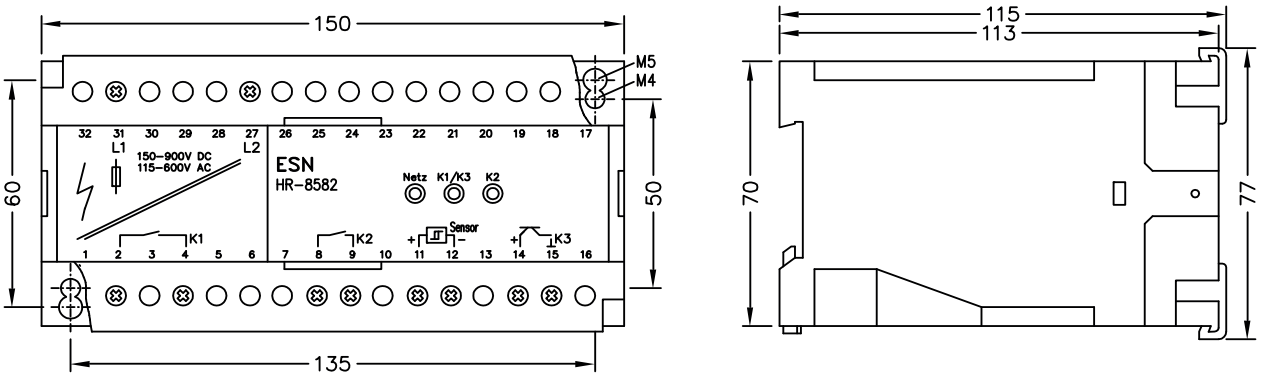

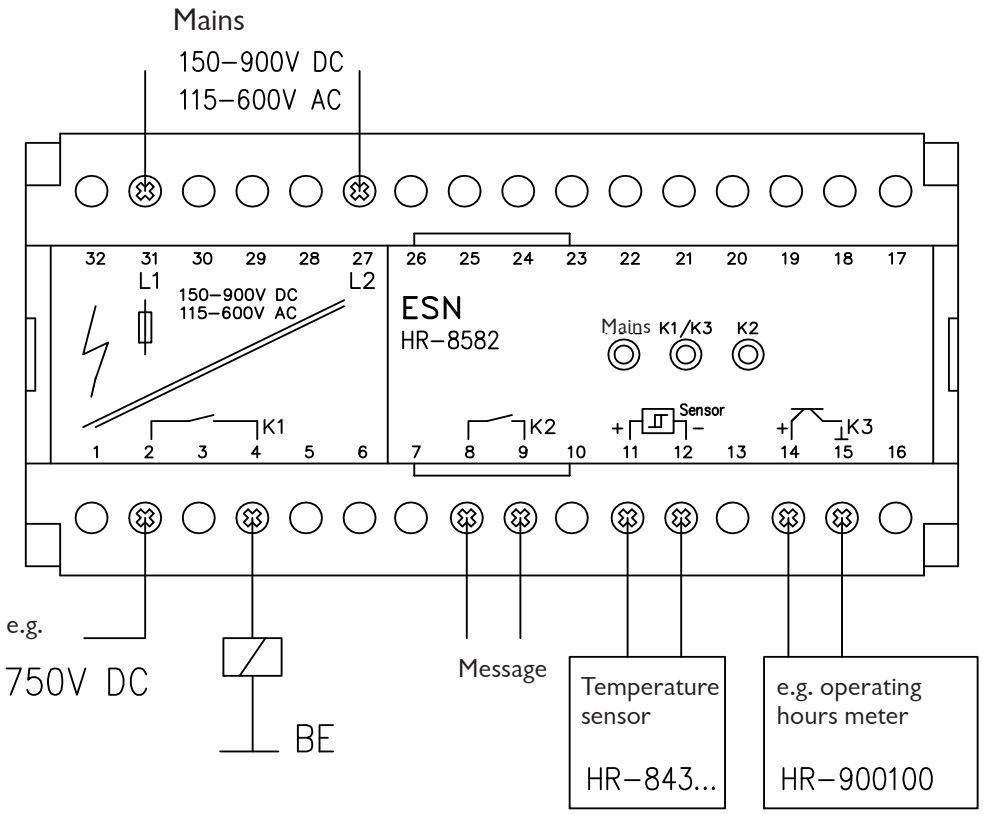

Sensor current	Output		
	K1	K2	K3
I < Is			0V
I > Is			12V