

MHCO line

DC measuring converter



General Characteristics

The DC measuring transducers MHCO are the transducers for high voltage measurement designed by Microelettrica Scientifica. The MHCO are designed and manufactured to allow safe and full isolated HV measurement of DC currents and Voltages. They find their main application in all the DC Traction Substations (Railways, Tramways and Metro) where, directly connected to the high voltage systems (750V, 1,5kV and 3kV) gives very accurate and safe analogue outputs for measuring and protective purposes.

The MHCO line includes three models:

MHCO-TV

For VOLTAGE measurement.
Directly connected to the high voltage line up to 6kV through internal voltage divider

MHCO-TI

For CURRENT measurement.
Connected to the high voltage line through a dedicated shunt (not supplied).

MHCO-TVI

For combined CURRENT & VOLTAGE measurement.
Connected to the high voltage line up to 6kV through internal voltage divider & through a dedicated shunt (not supplied).

Highlights

- HV Transducer for Current & Voltage measurement
- Direct Connection up to 6kV
- Fibre Optic connection between HV transmitter and LV receiver
- Measuring channel fully redundant
- Autoranging Multivoltage Power supply (self-powered version available as optional)
- Compatible with traction application standard

Transmitter Unit

Three different models available, one for each type of transducers (current, voltage and current/voltage). Directly connected to the High Voltage DC system acquires the input signals by a redundant input channel and transmit them, after comparison and confirmation of validity, to the receiver unit through dedicated Fibre Optic connections. It has an autoranging multi-voltage Power supply. As option a self powered version is available; in this case the power supply is directly taken from the line voltage through a set of dumping resistors.

Receiver Unit

Two models available, respectively suitable to be connected to the current and to the voltage transmitter by means of a dedicated Fibre Optic connection. The input signal is converted into 4 linear analogue output signals independently programmable (ie. 0-20/4-20mA etc.). The setting of this unit can be easily done using our MScOm2 software tool.



Electronic

Transducers: MHCO line

The receiver is equipped with two output relays: one relay is used for autodiagnostic (it trips in case of interruption of the Fibre Optic channels or internal failure of the receiver unit, including power supply failure or as alarm for measurement discrepancy between the two transmitter channels); the second relay can be programmed as alarm for under/over voltage and/or current level. Optionally a Front face display and Keyboard panel is available for local measurement and programming.

Fibre Optic Link

Transmitter and Receiver units are connected by means of a Fibre Optic link which guarantee a very high insulation level. Two Fibre Optic type are available both provided with standard ST connectors:

PLASTIC FIBRE: 62,5/125μ

GLASS FIBRE: 200 m HSC

The standard length of the fibre opti connection is 5 meters, other lengths are available on request.

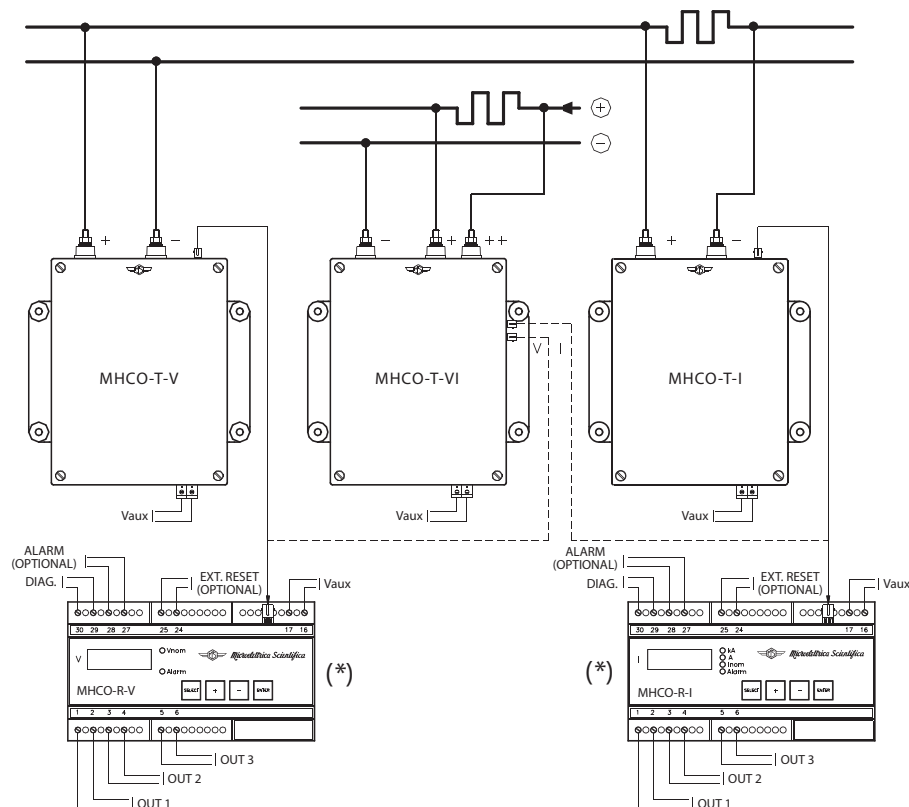
Characteristics Transmitter/Receiver

Measurement solution: 0.1% of full scale @ (20/+70)°C

Response time: 200ms

Connection: Fiber optic type 200.230.500m HCS (plastic) or 62.5/125m (glass) connection type ST
Fiber optic standard length 5m (max 1 km with glass fiber)

Wiring Diagram



(*) Version with optional display shown in the figure



KNORR-BREMSE



Microelettrica Scientifica

Microelettrica Scientifica S.p.A. Via Alberelle, 56/58 20089 Rozzano - Italy
Tel.: +39 02 575731 Fax: +39 02 57510940 - sales.relays@microelettrica.com
www.microelettrica.com