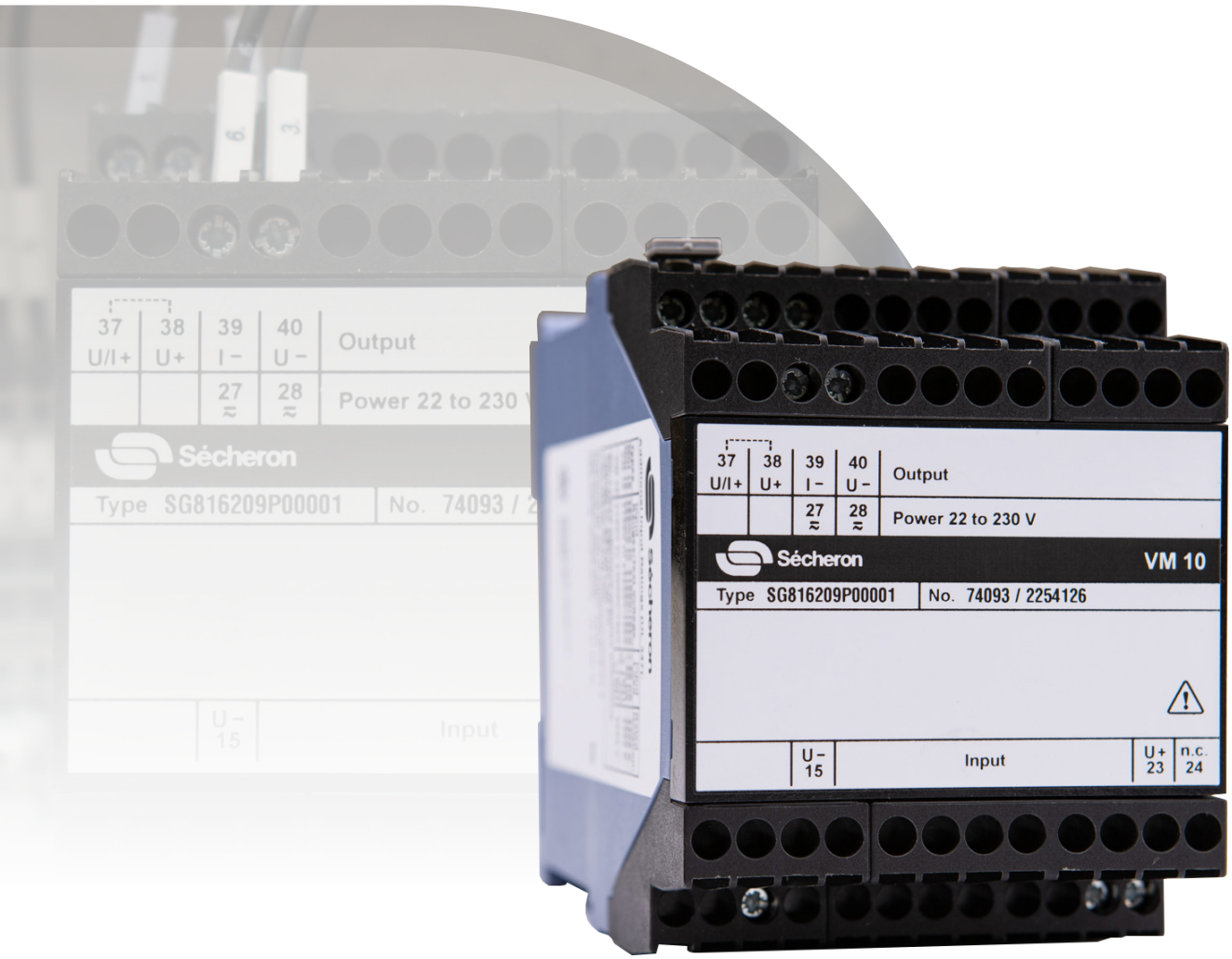
TRACTION
POWER
SYSTEMS

Sécheron

ISOLATED AMPLIFIERS FOR VOLTAGE MEASUREMENT

ESTRA-**VM10**



ESTRA

DC SWITCHGEAR & DISTRIBUTION BOARD

With a leading expertise in DC traction power substations, Sécheron is your major partner for the electrification of DC traction networks, covering all activities from network design, calculation and engineering, to the production of the DC systems.

The ESTRA product category covers all key equipment applied in DC distribution, integrating DC high-speed circuit breakers, disconnect switches, load break switches, control & protection relays, measuring amplifiers, etc. We can offer tailor made solutions based on modular concepts and standard products. Our equipment is developed on world leading technology and proven worldwide design and acceptance. Our customers and partners benefit through this offer of all our system skills and experience.

GENERAL INFORMATION

The VM10 amplifier is suitable for measuring DC voltages in power distribution systems for public transport networks.

The VM10 measuring equipment, with its high voltage isolation, ensures safety for the equipment and for the personnel.

Main features

The housing width is 67.5 mm.

The devices isolate and transmit input voltages in the range of ± 0.75 kV ... ± 3 kV (with fixed setting).

The individual measurement ranges are calibrated.

The broad-range power supply operates from 24 to 230 $V_{AC/DC}$.

Adjustable version

The working voltage for basic insulation (overvoltage category III, pollution degree 2) is 2.2 kV / 10 kV dielectric isolation. The 16 measurement ranges are selected using an insulated rotary coding switch and/or by reconnecting the output lines. Preselection is done at factory, according to the substation specifications.

Fixed version (3kV)

The working voltage for basic insulation (overvoltage category III, pollution degree 2) is 3.6 kV / 15 kV dielectric isolation. The configuration is made only in the factory.

MAIN BENEFITS

- Wide supply voltage range
- Low non-linearity error
- Very high immunity
- High galvanic isolation, up to 15 kV (50 Hz, 1 min)
- Compact solution
- No external protection necessary (fuseless solution)
- Safe and reliable

MAIN CHARACTERISTICS

	Unit	Values
Standard product range		
Supply voltage	[$V_{AC/DC}$]	24...230 $V_{AC/DC}$ -20% / +10%
Input voltage	[kV]	0.75, 1, 1.5, 2, 3 unipolar / bipolar calibrated range selection (with fixed setting)
Output voltage	[V]	Us nom ± 5
Output current	[mA]	Is nom ± 20 mA or Is 4...20 mA RLmax = 600 ohms
Error on gain and non-linearity	[%]	Less than ± 0.3 < 100 ppm/K full scale
Cut off frequency (-3 dB)	[kHz]	> 5
Voltage consumption	[VA]	< 5
Residual ripple	[mVeff]	< 10
Galvanic isolation	-	3-port isolation between input, output and power supply according to EN 50124-1
Operating temperature	[°C]	-25 to +85
Galvanic isolation, input against output	[kV]	10 kV_{AC} 50 Hz 1 min (with 16 settings) 15 kV_{AC} 50 Hz 1 min (with fixed setting)
Sealing	-	IP40 (housing)
Mounting	-	DIN rail
Width	[mm]	67.5
Depth	[mm]	118
Height	[mm]	90
Weight	[g]	500

STANDARDS

When mounted in a cubicle:

- **EN 50121-5** | Railway applications – Electromagnetic compatibility – Part 5: Emission and immunity of fixed power supply installations and apparatus

Standard for isolators:

- **EN 61326 Class B** | Electrical equipment for measurement, control and laboratory use – EMC requirements

TYPE DESIGNATION

- Standard version with setting selection: SG816209P00001
- Fixed setting version: upon request
- Version dedicated to VLD application: SG816210P00011
  (150 V bipolar, ± 5 V, fixed setting)

For more technical information,
please refer to the instruction manual.

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