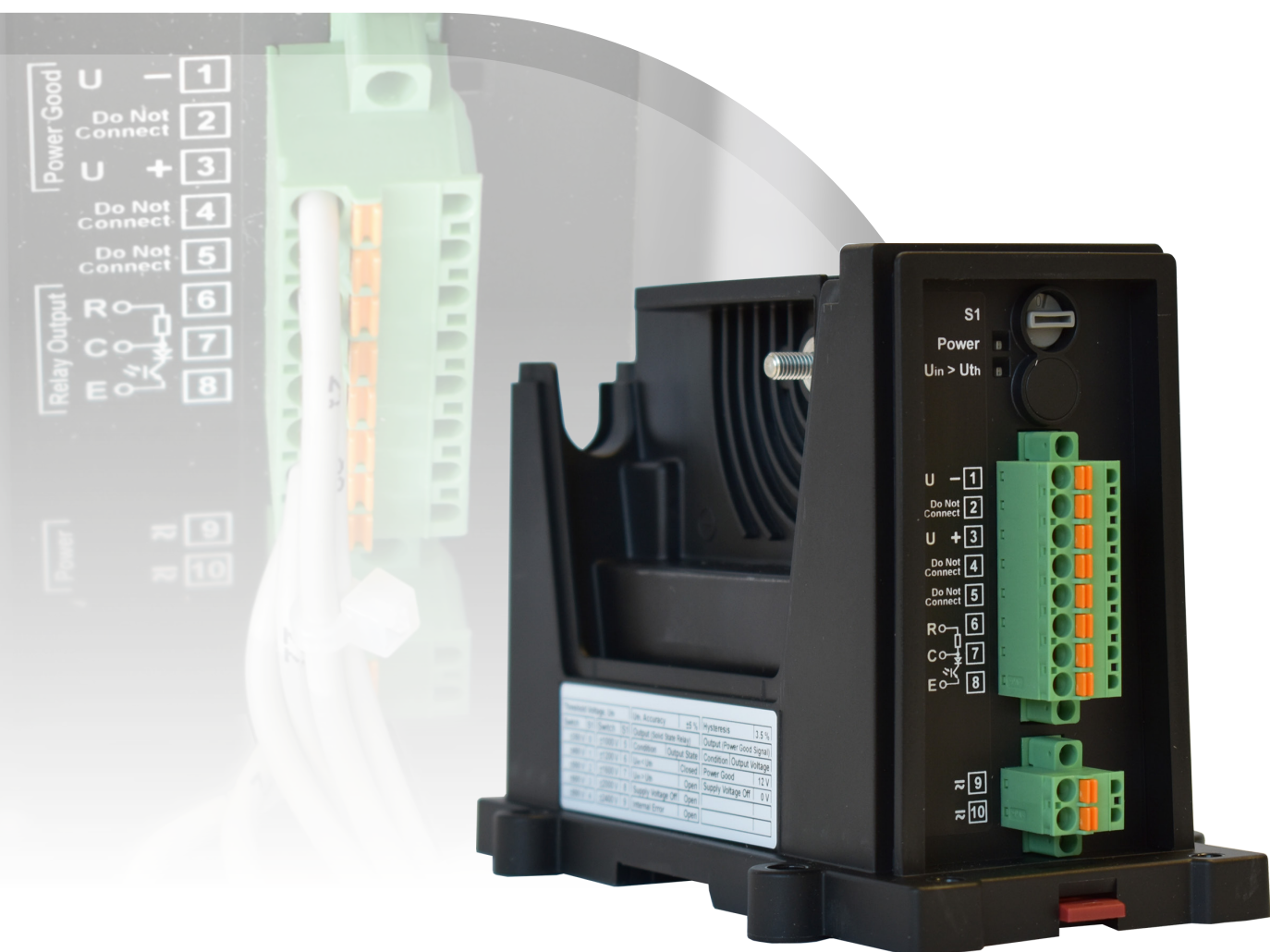


ISOLATED RELAYS FOR VOLTAGE PRESENCE DETECTION

ESTRA-**VP20**



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 VP20 relay is suitable for detection of DC voltages in power distribution systems for public transport networks such as tramways, railways and metro systems, with rated voltage levels from 750 V_{DC} to 3000 V_{DC}.

The VP20 relay, with its high voltage isolation, ensures safety for the equipment and for the personnel.

Range 350-2400 V

This version is mainly used as voltage detector in order to safely manage the interlocking of off-load switches. It can be used for signalling and indication of voltage presence along the traction line (36 track alive detection).

Range 50-600 V

This version is mainly used to detect potential dangerous touch voltages between negative return rail and earth (59 overvoltage protection).

STANDARDS

- **EN 50121-1** | Railway applications – Electromagnetic compatibility – Part 1: General
- **EN 50125-3-2** | Railway applications – Environmental conditions for equipment – Part 3: Equipment for signalling and telecommunications – Normative references
- **UL 347** | Medium-Voltage AC Contactors, Controllers, and Control Centers

MAIN BENEFITS

- ✓ Adjustable threshold by means of dip-switch
- ✓ High galvanic isolation, up to 18 kV (50 Hz, 1 min)
- ✓ Intrinsic safety functioning
- ✓ No external protection necessary (fuseless solution)
- ✓ Safe and reliable

MAIN CHARACTERISTICS

	Unit	VP20-350-2400	VP20-50-600
Main characteristics			
Switching thresholds	[V]	350, 400, 500, 600, 800, 1000, 1200, 1600, 2000, 2400	50, 60, 100, 120, 150, 200, 250, 300, 400, 600
Overload capacity	[V]	± 4800 permanently ± 7100 short-time (1 s)	± 1350 permanently ± 2700 short-time (1 s)
Input resistance	[MΩ]	10	> 2
Max. measurement error (switching thresholds)	[%]		≤ 5
Hysteresis	[%]		3.5
Test voltage across input and output / power supply	[kV _{AC}]	18 (type test) 16 (100 % routine test)	12 (type test) 10 (100 % routine test)
Operating temperature	[°C]		-40 to +85
Power supply			
Supply voltage range	[V _{AC/DC}]		24...230
Max. power consumption	[W / VA]		2.5 / 6
Solid state switch output			
Switching voltage	[V _{DC}]		24
Max. switching current	[mA]		15
Min. input trigger time	[ms]		2
Switching delay	[ms]		2
Min. hold time	[ms]		300
Power good signal output (operating readiness, power supply OK)			
Nominal voltage	[V]		12
Dimensions and mounting			
	Unit	With protective covers	Without protective covers
Mounting	-	TS35 DIN rail	
Input protection	-	IP54 (according to EN 60529)	IP00
Output protection	-	IP51 (according to EN 60529)	IP20
Width	[mm]	90	
Depth	[mm]	116	
Height	[mm]	182	
Approx. weight	[g]	780	650



TYPE DESIGNATION

Type	Thresholds	Covers	Sécheron item number
VP20-350-2400	From 350 to 2400 V	No	SG847430P10001
VP20-350-2400	From 350 to 2400 V	Yes	SG847430P20001
VP20-50-600	From 50 to 600 V	No	SG847430P10002
VP20-50-600	From 50 to 600 V	Yes	SG847430P20002

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



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