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Product Information TROXNETCOM-AS-Interface Power units

PI/7.1/7/EN/1

AS-i power units TNC-A1216, TNC-A1218, TNC-D2010

Switch power units – the state of the arts technology

AS-i power units are a functional component of the AS-i network. A crucial advantage of the AS-i system is the use of a single line to transmit data and distribution voltage. Thus, the AS-i power units not only make available the system voltage, but they also ensure a data decoupling at the same time. This ensures that the data communication is not impaired by noises in the supply mains.

The power unit fulfils the VDE 0106 requirements, (PELV: “Protective Extra-Low Voltage” corresponding to the “functional extra-low voltage control signals”). In order to make available an adequate supply voltage at all points of the AS-i power mains with an allowed line length of 100 m, the output voltage is regulated in the 29.5 to 31.6 Vdc range. The feed-in of the first split range in AS-i network should take place near the controller. Likewise, in a AS-i power unit, network extensions must be fed near the repeater. Voltage drops or interruptions on the primary side of 10 ms do not cause a function impairment, i.e., the secondary voltage does not drop under 14 V. In order to fulfil the initial conditions of the voltage range, resistance to short-circuits etc., all constructions are led as primary clocked power units. The presence of the secondary voltage is indicated by a green LED.

In the switch power unit construction, all constructions offer a high working reliability, also with varying supply voltages. Of course, the electronic protection against over-voltage (OVP) and short-circuit is ensured. Once the short-circuit or the overload is removed, the voltage recovery takes place automatically.

The shield terminal of the power unit has to be connected with the system ground.

The electrical layout complies with safety measures according to VDE 0551.

Main performance characteristics:

- Very high level of efficiency > 87%
- Small residual ripple, < 1%
- Input and output overvoltage protection
- Short-circuit, open-circuit proof and overload-proof
- More working reliability through mains voltage breakdown bridging
- High reliability by MTBF time of approx. 300.000 hours
- Small and narrow casings – Little space requirement
- Small weight
- Quick and easy to install
- Extremely small heat development through very high level of efficiency
- **little dissipated heat – therefore no switch cabinet heating**

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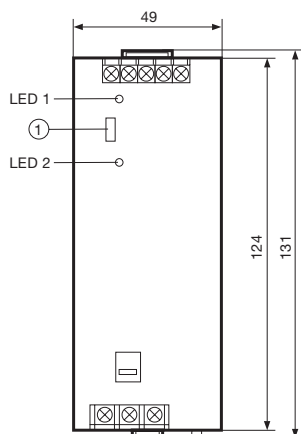
TNC-A1216 and TNC-A1218 AS-i power unit

Use: AS-i system voltage for master, sensors, actuators and modules

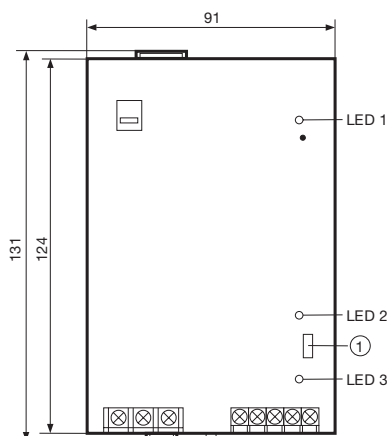
TNC-A1216 - 85 W power output – Primary rated voltage 115 / 230 V AC, switched

TNC-A1218 - 240 W power output – Primary rated voltage – Primary rated voltage 115 / 230 V AC, switched

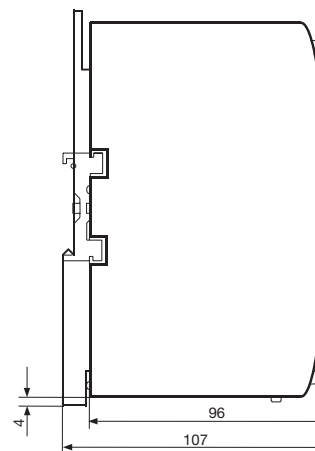
Power supply TNC-A1216



Power supply TNC-A1218



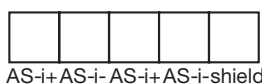
Side view for power units TNC-A1216 and TNC-A1218



Technical data

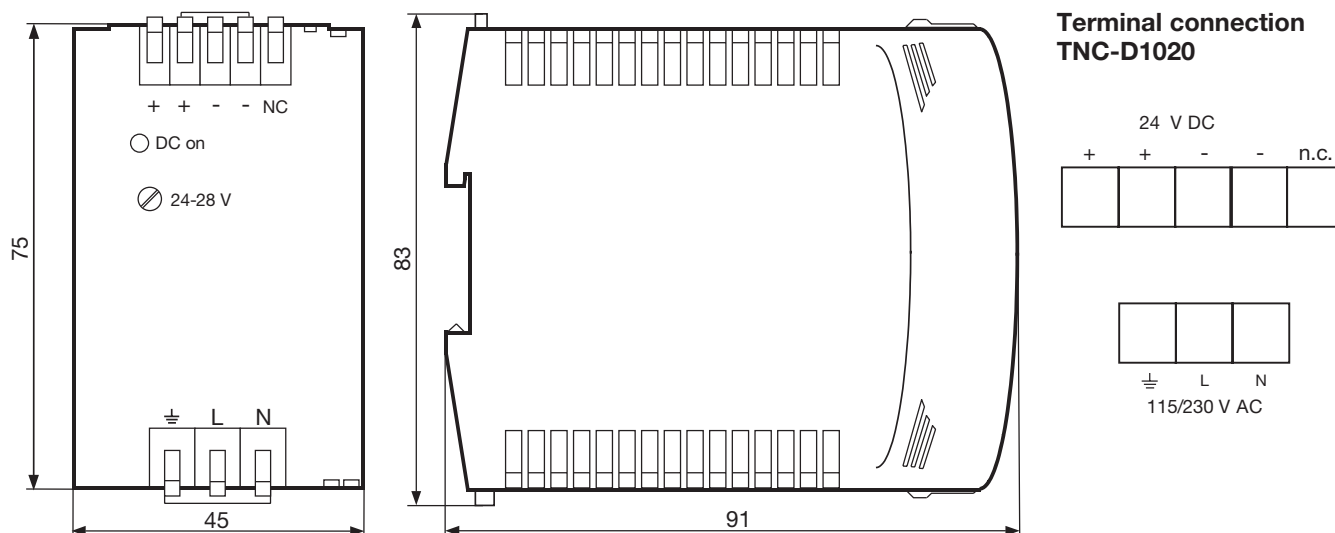
Order code	TNC-A1216	TNC-A1218
Output current [A]	2.8	8
Nominal voltage [V]	115 / 230 AC switched	115 / 230 AC switched
Input voltage range [V]	85...132 / 184...264 AC	85...132 / 184...264 AC
Nominal frequency [Hz]	47...63	47...63
Efficiency [%]	88	92
Housing	aluminum	aluminum
Protection	IP 20	IP 20
Connection	terminals up to 4 mm ²	terminals up to 4 mm ²
Operating temperature [°C]	-10...+70	-10...+70
Derating	2W/K (+60 to +70°C)	6W/K (+60 to +70°C)
Output voltage [V]	29.5...31.6 DC according to PELV	29.5...31.6 DC according to PELV
Power-on delay time [ms]	type 100	type 100
Residual ripple max. [mV]	<50	<50
Mains buffering time [ms]	>10	>10
Switching peak current [A]	14	16
Short-circuit protection/overload proof	Yes	Yes
EMC	EN50081-1; EN61000-6-2; EN61000-3-2; CE: IEC60950; 1999	EN50081-1; EN61000-6-2; CE: IEC60950; 1999
Fuse	T3.15A/250 V integrated	T8A/250 V integrated
Back-up fuse	10A or higher	6A or higher
AS-i certificate	34401	42101
Function display LED	LED 1 green (it lights with overload) LED 2 red (IR-adressing)	LED 1 red (it flashes with short-circuits, overload) LED 2 red (IR-adressing) LED 3 green (it lights with)
Mounting	possible on DIN rail	possible on DIN rail

TNC-A1216 / TNC-A1218 terminal connection



TNC-D1020 switch power unit

Use: 24 V Voltage supply for AS-i Controller and control and display tablet.



Technical data

Order code	TNC-D1020
Output voltage [A]	1.3
Nominal voltage [V]	115 / 230 AC
Input voltage range [V]	100...240 AC
Nominal frequency [Hz]	50...60
Efficiency [%]	87.5
Housing	Polycarbonate
Protection class	IP20, I
Connection	terminals...2.5 mm ²
Operating temperature [°C]	-10...+70
Output voltage [V]	24...28 DC (±2%) adjustable according to SELV
Residual ripple [mV]	<50
Mains buffering time [ms]	>190
Short-circuit protection / overload proof / open-circuit proof	Yes
Overvoltage protection (OVP) [V]	<40
EMC	EN 50081-1 / EN 61000-6-2
Weight [g]	230
LED display	green
Mounting	possible on DIN rail

**A large number of additional power units is available.
If necessary, please contact our technical.**