

Technical Information

E-T-A Smart Power Protection Relay

Type E-1048-8C.

The Smart Power Protection Relay E-1048-8C is a true alternative to electro-mechanical d.c. relays and fuses. It combines the functions of a solid state electronic relay and overcurrent protection for all DC 12 V and DC 24 V supply voltages. Requiring only a very low control current and with minimal current consumption with load off, the E-1048-8C is ideally suited for use in battery-buffered on-board electrical

systems. Optionally available functions provide essential additional information such as LED indication and status outputs for control or group fault signals in the event of overcurrent or wire breakage in the load circuit. The full-feature "deluxe" version provides a 0...5 V analogue output proportional to the load current, which can readily be incorporated into the power management of the overall system.

The 7-pin CUBIC version is designed to plug into standard automotive power relay sockets. It offers three vital functions – switching, protection and monitoring – in a single device, thereby eliminating a number of terminations which are always a potential source of failure in on-board electrical systems.

Technical data

Rated voltage U_N	DC 12 V/24 V (9...32 V)
Current rating range I_N	1 A/2 A/3 A/5 A/7.5 A/10 A/15 A/20 A/25 A
Load output	power MOSFET, high side switching, internal current limitation
Current consumption I_0 (load off)	< 1 mA
Overload disconnection	typically $1.3 \times I_N$ after typically 200 ms (standard)
Control voltage $IN+$	0...5 V = "OFF" / 8.5...32 V = "ON"
Control current I_E	1...10 mA
Control signal AS (option)	transistor output minus switching (LSS), short circuit and overload proof, max. 2 A
Group fault signal SF (option)	transistor output minus switching (LSS), short circuit and overload proof, max. 2 A
Analogue output U(I)	voltage output 0...5 V, proportional to load current ($1 \text{ V} = 0.2 \times I_N$)
Visual status indication (option)	LED yellow = AS / LED red = SF
Ambient temperature	-40...+85 °C (60 °C at $I_N = 25 \text{ A}$)
Vibration	6 g eff. (10 Hz...2000 Hz)
Shock	25 g/11 ms
Mounting	automotive power relay sockets (4-pole or 7-pole)



Features and benefits

- Three functions in a single device:
 - electronic relay
 - electronic overcurrent protection
 - indication and diagnostic functions
- CE marking, e1 logo according to EMC directive and vehicles directive
- Colour coded label indicating current rating



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