

# Smartive Relay Expander

Installation, marking and production final test

SM-RELAY-EXP-IFU-LABEL-PFT-EN-001 | Issue 1.0 | 2026-06-18 | Final

## Installation and Safety Instructions

- The product is a 16-channel mechanical relay expander module.
- Installation by qualified personnel only, inside a closed electrical or control cabinet, according to the national electrical installation rules.
- Each 230 VAC relay branch must be protected by an external miniature circuit breaker or fuse rated max. 10 A. The module does not replace an overcurrent protective device.
- The relay does not include product-level surge protection; where required by the installation, SPD protection shall be provided externally on the switched branch.
- Before installation, servicing or rewiring, disconnect the 5 V supply and every external supply feeding the relay branches.
- The U1 5 V/GND power-injection input may be used only as a supplemental feed for the same 5 V SELV supply domain when simultaneous operation of many relays requires it due to voltage drop or current margin. Polarity and common GND shall be checked; a different-voltage or non-SELV supply shall not be connected.
- The RJ45 extender port shall be used only with the documented Smartive-compatible SELV extender wiring.

## Rating Label and Marking

<b>Smartive Relay Expander</b> <b>Model: Relay Module Rev. 1.3   Code: SM-RELAY-EXP</b> <b>Supply: 5 VDC SELV</b> <b>Aux 5V/GND input: 5 VDC SELV only, common GND / same supply domain</b> <b>Relay outputs: 16 x dry contact, max. 10 A @ 250 VAC relay contact</b> <b>Installation limit: external MCB/fuse max. 10 A @ 230 VAC required per relay branch</b> <b>RJ45 extender: SDA, 3.3V, 1-Wire, 5V, 5V, SCL, GND, GND</b> <b>Apptive Kft, 9932 Viszák, Fő út 56, Hungary</b> <b>CE WEEE</b>
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Field	Content
Product	Smartive Relay Expander
Model	Relay Module Rev. 1.3 / SM-RELAY-EXP
Supply	5 VDC SELV
Auxiliary 5 V/GND input	Same 5 V SELV supply domain only, with common GND and correct polarity.
Relay outputs	16 x dry contact; relay contact max. 10 A @ 250 VAC; external OCPD max. 10 A @ 230 VAC mandatory per relay branch in installation.
RJ45 extender	SDA, 3.3V, 1-Wire, 5V, 5V, SCL, GND, GND
CE/RoHS/WEEE	CE marking; RoHS release documentation; WEEE marking according to applicable placing-on-market obligation.

## Production Final Test

Step	Method	Acceptance	Result
Visual inspection	Check PCB, relays, terminals, RJ45 ports, soldering and label.	No damage, suspected solder bridge or incorrect marking.	Pass
5 V supply	Start from rated 5 VDC SELV supply and record current draw.	Stable operation without overheating.	Pass
U1 5 V/GND power injection	Check polarity, common-GND continuity and 5 V SELV voltage at the U1 input.	Correct polarity, common GND, no abnormal current draw or heating.	Pass
I2C / MCP23017	Identify MCP23017 and toggle each output bit.	Every bit and bank operates correctly.	Pass
16 relays	Switch relays one by one; measure contact continuity with a safe test fixture.	Each relay pulls in/releases; no stuck or welded contact.	Pass
RJ45 extender	Documented pinout and communication check.	SDA/SCL/1-Wire/supply/GND assignment and communication are correct.	Pass
Document/label	Check warning for max. 10 A @ 230 VAC external OCPD per relay branch.	Warning is present on label and accompanying document.	Pass