

Output Contacts Extension for F200 Safety Systems

Characteristics

- 4 safety contacts
- Easily connected via flat cable connector
- Status of relays indicated by LED's
- 22.5 mm housing (DIN rail compatible)
- Plug in coded terminal blocks

Description

The number of safety contacts in an F200 Safety System can be increased to meet specific applications requirements, using the **F230** Output Expansion Modules, which provides 4 additional output contacts.

The Basic Module and Expansion Modules are inter-linked through a data bus, for which connections are made simply by means of plug-in connectors on the front of the Modules. Data transfer and power supply are routed through the same bus cable and connectors. Up to two **F230** Output Expansion Modules can be bus-connected to a Basic Module, to provide a maximum of 10 output contacts in a safety system.

The narrow width of the module housing ensures compact system configurations, making it easier to extend the system at a later date. Modules can be inserted at any position in the input chain: the system is automatically reconfigured when it is switched on.

The Modules in this Series are fitted with plug-in terminal blocks, for easy installation, removal, or replacement.



Mode of Operation

When the F210 Basic Module is activated, the internal relays of the **F230** Output Extension Module are dual channel controlled and work parallel with the relays of the Basic Module, so that the safety circuits are closed.

Internally, the contacts of two relays are connected in series so that redundancy is ensured.

The Basic Module keeps a check on the switching condition of the Expansion Module through the plug-in connection (External Device Monitoring circuit). This ensures that re-starting of the system is avoided in the event a safety contact does not open properly. For this, the terminals Y40 and Y42 in Basic Module must be open, and the terminals Y1-Y2 (feedback circuit) must be connected. In the last Expansion Module cascade-connected

in the system, a terminating plug must be installed in its free connector.

The status of each output relay of the Expansion Module is indicated by a corresponding LED on the front.

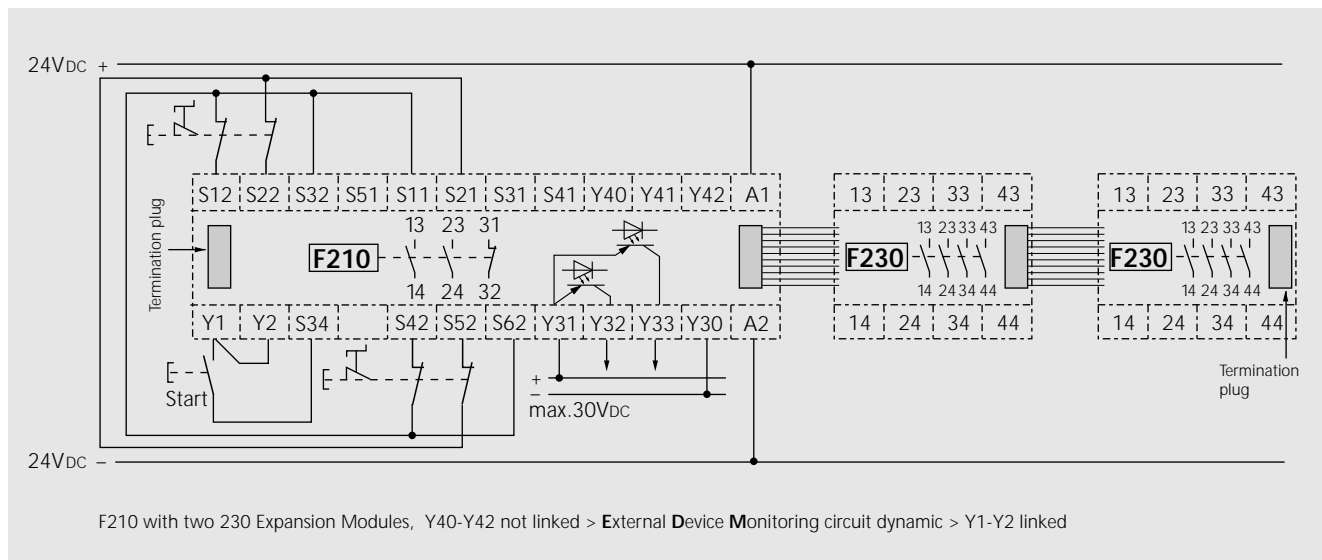
Models and Ordering Data

Contacts	4 N/O Safety contacts
Type F 230 24 V _{DC}	Order No. 074 00186

	
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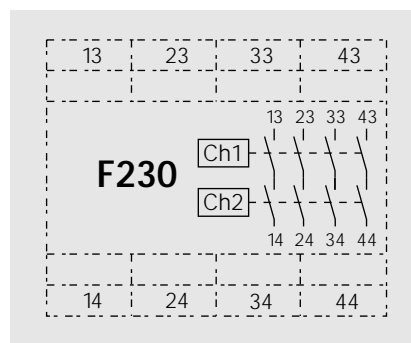
Wiring Example



Technical Data

Rated voltage	24 V _{DC} via Base Module
Power consumption	Approx. 1.5 W
Rated insulation voltage	250 V
Creep and air paths	Overvoltage Category III, Pollution Level 2 per VDE 0110
Test voltage	2.5 kV
Ambient temperature	-5 °C to +55 °C
Storage temperature	-20 °C to +70 °C
Protection class	Terminals IP 20 Housing IP 40
Installation	In a cabinet: IP54
Switching capacity	AC: 250 V, 1250 VA. DC: 24 V, 120 W Preferably with spark suppression
Current rating	4 x 4 or 3 x 5 A or 2 x 6 A
Contacts configuration	4 N/O (safety contacts)
Mechanical lifetime	10 ⁷ switching cycles
Contacts material	AgSnO ₂ , with 2 micron gold plating
Terminals	Terminal box with wire protection
Wire cross section	2.5 mm ²
Control circuit	24 V _{DC} nominal
Contact protection	Fuse: max. 6 A slow blow. Circuit breaker: max. C10 A quick break
Weight	Approx. 215 g

Circuit Diagram



Dimensional Diagram

