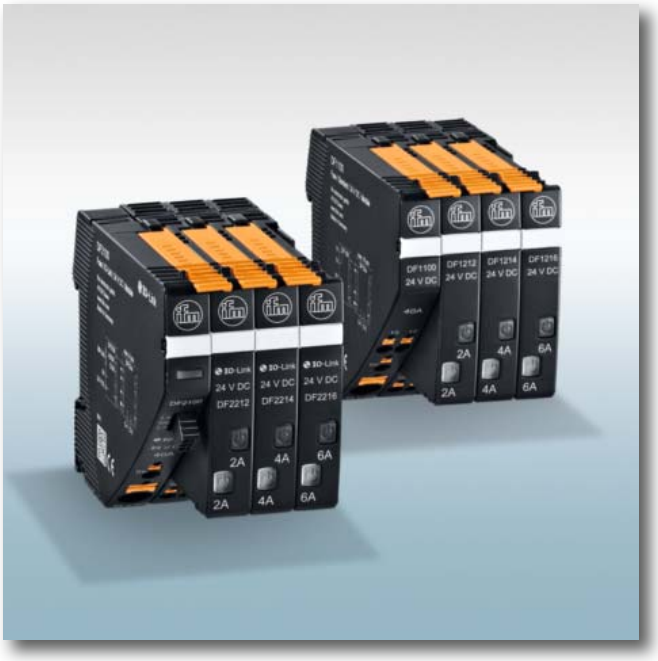
ifm electronic

Electronic fuse



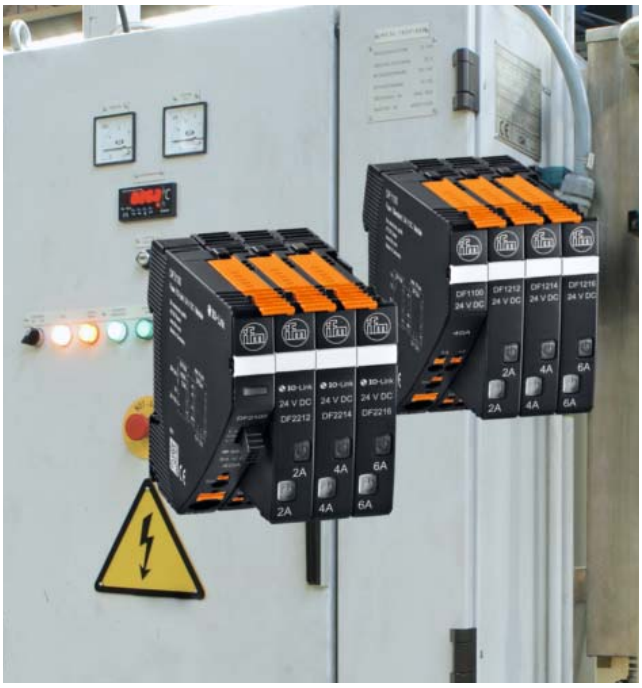
Reliable circuit protection with monitoring function for the 24 V secondary circuit

- Modular and selective protection in plant and machinery
- Reliable circuit protection allows reduction of wire cross-sections
- Fast replacement using innovative connection technology
- Detection of triggering cause (via IO-Link)
- Current and voltage measurement in each channel (via IO-Link)

Safety on the 24 V side

As opposed to the 230 V primary side, the circuit protection in the secondary circuit is often neglected. Another issue is that in the event of a failure of the 24 V DC voltage supply standard mechanical circuit breakers often do not trigger. This may happen with long cables, for example.

The electronic fuse from ifm monitors the circuit ideally and, if required, it is reliably switched off. Individual branch circuits can be selectively switched-off. This allows a reduction of wire cross-sections in the load circuit of the switched-mode power supplies. The system has a modular structure and can be ideally adapted to the circuits of plant and machinery. The IO-Link version also allows evaluation of important diagnostic data.



Modular installation

The system has a modular structure and consists of a head module to feed max. 40 A. The fuse modules can be mounted side by side. This is done via a simple clip mechanism, completely without any bridges, jumpers or the like.

Easy mounting and minimised wiring complexity save cost and time. With the standard version the user can connect up to 10 and with the IO-Link version up to 8 safety modules to the head module. Each module is equipped with 2 channels. This totals up to 20 channels.

Versions

There is a standard and an IO-Link version. In addition to the triggering mechanism, the modules feature an LED for signalling if the module has triggered, if it is active and in how far it is utilised.
By means of a pushbutton each channel can be activated, deactivated or set.
The feed module has an additional collective output to provide a warning signal if a module has triggered.

More transparency with IO-Link

The IO-Link version has the same function; there is, however, additional information about each channel:

Transfer to the IO-Link master:

- effective nominal current (1 byte cyclical)
- output voltage (acyclical)
- triggering counter (acyclical)
- current unit status (1 byte cyclical):
  – short circuit
  – overload
  – undervoltage
  – limit reached (80 % I_N)

Transfer from the IO-Link master:

- activation/deactivation
- reset with triggering
- reset triggering counter

The modules are available in the fixed sizes 2A, 4A and 6A. The fixed current values prevent subsequent misuse by changing the max. current value.

Inputs [V DC]	Nominal current [A]	Interface	Order no.
Head module, standard			
24, 40 A	–	–	**DF1100**
Fuse module, standard			
–	2 x 2	–	**DF1212**
–	2 x 4	–	**DF1214**
–	2 x 6	–	**DF1216**
Head module, IO-Link			
24, 40 A	–	IO-Link	**DF2100**
Fuse module, IO-Link			
–	2 x 2	IO-Link in combination with head module	**DF2212**
–	2 x 4	IO-Link in combination with head module	**DF2214**
–	2 x 6	IO-Link in combination with head module	**DF2216**

Further technical data		
Operating voltage	[V DC]	24 (19.2...30)
Switch-off characteristics		Time-current characteristics
Fail-safe element		= nominal current (e.g. 4 A = 4 A)
Switch-on capacity		20,000 µF
Switching status indication	LED	Multi-colour, signal contact via feeding module
Temperature range	[°C]	-25...60
Connection technology		Push-in incl. pusher
Installation		DIN rail
Approvals		UL508 listed (in preparation)

Accessories

Type	Description	Order no.
	USB IO-Link master for parameter setting and analysis of units Supported communication protocols IO-Link (4.8, 38.4 and 230 kBits/s)	**E30390**
	LINERECORDER SENSOR, software for parameter setting and setting up IO-Link sensors	**QA0001**