4 The H51q System Family

The H51q system family comprises modular designed PES in single channel and redundant models, also with TÜV safety certificate.

All input/output modules can be used with both redundant and single channel models of the central devices.

All modules of the H51q system family meet the requirements for electromagnetic compatibility and immunity according to article 10 of the EU guideline 89/336/EWG for the electromagnetic conformity. This is marked with the CE sign within the data sheets of the modules. Also the systems and modules are wearing a label with this sign.
The H51q system family consists of one 19 inches central rack, 5 units high, and up to 16 input/output racks in the 19 inches size, 4 units high (see also data sheets for H51q systems or assembly kits).

4.1 Overview Assembly Kits H51q

The components required for a working system are included in assembly kits:

System	H51q-M	H51q-H	H51q-HR	H51q-MS	H51q-HS	H51q-HRS
Safety	–	–	–	SIL 3	SIL 3	SIL 3
Quantity/type CU	1 x F 8651X	2 x F 8651X	2 x F 8651X	1 x F 8650X	2 x F 8650X	2 x F 8650X
Quantity/type CM *	3 x F 8621A	2 x 3 F 8621A	2 x 3 F 8621A	3 x F 8621A	2 x 3 F 8621A	2 x 3 F 8621A
Quantity/type CoM (Fast Ethernet) *	5 x F 8627/ F 8627X	2 x 5 F 8627/ F 8627X	2 x 5 F 8627/ F 8627X	5 x F 8627/ F 8627X	2 x 5 F 8627/ F 8627X	2 x 5 F 8627/ F 8627X
Quantity/type CoM (Profibus-DP) *	5 x F 8628/ F 8628X	2 x 5 F 8628/ F 8628X	2 x 5 F 8628/ F 8628X	5 x F 8628/ F 8628X	2 x 5 F 8628/ F 8628X	2 x 5 F 8628/ F 8628X
Quantity/type power supplies	2 (+1*) x F 7126A	3 x F 7126A	3 x F 7126A	2 (+1*) x F 7126A	3 x F 7126A	3 x F 7126A
5 V monitoring	F 7131	F 7131	F 7131	F 7131	F 7131	F 7131
Battery buffering	F 7131 + F 8651X	F 7131 + F 8651X	F 7131 + F 8651X	F 7131 + F 8650X	F 7131 + F 8650X	F 7131 + F 8650X
Quantity I/O buses	1	1	2	1	1	2
max. quantity I/O modules	256 in 16 I/O subracks	256 in 16 I/O subracks	2 x 128 in 2 x 8 I/O subracks	256 in 16 I/O subracks	256 in 16 I/O subracks	2 x 128 in 2 x 8 I/O subracks
Assembly kit number	B 5230	B 5232-1	B 5232-2	B 5231	B 5233-1	B 5233-2

Table 4: Overview Assembly Kits H51q

* Options (max. 5 communication slots per central module)

Abbreviations:

CM	Coprocessor Module
CoM	Communication Module
CU	Central Module
I/O	Input/Output

7.4 Update from F 865. to F 865.X

When F 865. central modules are updated to F 865.X, also the fan conception must be modified:

Former fan concept:
Z 6012: one integrated fan with fan run monitoring and fuse monitoring

New fan concept:
Z 6018: fan run monitoring for 4 fans and fuse monitoring
K 9212: fan unit (4 fan units for H41, 3 fan units for H51).

See also data sheets of the assembly kits.

7.5 Replacement of F 865.A by F 865.X

F 865.A central modules can be replaced by F 865.X modules after changing to the new fan concept and using the unaltered user program, but with the new operating system (BS41q/51q V7.0-8).

7.6 Use of Coprocessor and Communication Modules

System H41q
To the right of each central module one coprocessor module (F 8621A) or one communication module (Ethernet: F 8627/F 8627X, Profibus-DP: F 8628/F 8628X) can be installed. If they are operated in redundant mode, the same type has to be used.

System H51q
To the right of each central module up to three coprocessor modules or up to five communication modules can be installed additionally.

Restrictions
Coprocessor modules:
Max. 3 for each central module, only the slots reserved for the coprocessor modules can be used (slots 10, 11, 12 or 17, 18, 19).

Ethernet or Profibus-DP communication modules:
Max. 5 for each central module, each of the five slots right of the central modules can be used (slots 10, 11, 12, 13, 14 or 17, 18, 19, 20, 21). The different types can be mixed.

If they are operated in redundant mode, the redundant coprocessor or communication modules must be installed in the according slots.

The additional devices listed below are now described in the catalog "Cabinets and Power Supplies".

K 7212	Feeding and current distribution (with mains filter)
K 7213	Feeding and current distribution, up to 35 A
K 7214	Feeding and current distribution, up to 150 A
K 7215	Feeding and current distribution, up to 150 A, graphical display
K 7216	Feeding and current distribution, up to 63 A, for SELV and PELV
K 7901	Feeding and current distribution, up to 63 A, with two mains filters Z 6015
K 7915	Fuse distributor for lead fuse with certificate of Factory Mutual Research Corporation

10.7 Modules for I/O Bus Coupling

F 7553	Coupling module for H51q

10.8 Communication Modules

F 8621A	H41q/51q coprocessor module
F 8627 / F 8627X	Fast Ethernet communication
F 8628 / F 8628X	Profibus-DP communication

10.9 Relays in Terminal Block Housing

H 4116	Relay in terminal block housing, safety-related, 4 A, SIL 2
H 4135	Relay in terminal block housing, safety-related, SIL 3
H 4136	Relay in terminal block housing, safety-related, operating voltage 48 VDC, SIL 3

10.10 Bus Connection Modules for HIBUS

H 7505	data signal converter V.24 / 20 mA, 2-wire / 4-wire (HIBUS)
H 7506	Bus terminal module for 2-wire buses

10.11 Accessories

H 7014	Electronic fuses
H 7015A	Terminal module
H 7016	Terminal module
H 7017	Shunt with low-pass filter
H 7018	Terminal module
H 7020	Terminal module
RS485 PCI	Interface card