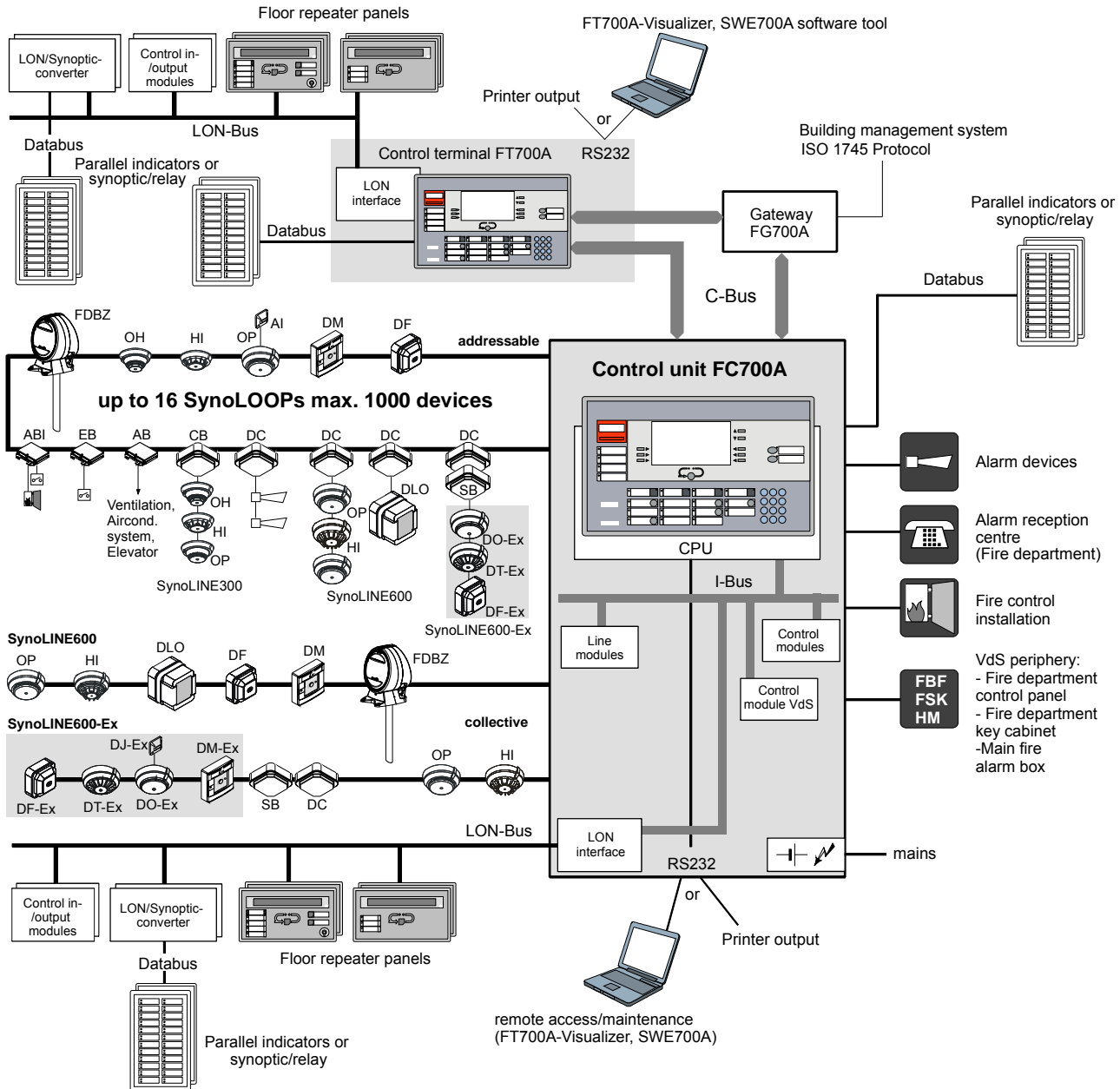# SIEMENS

FC700A

Synova™
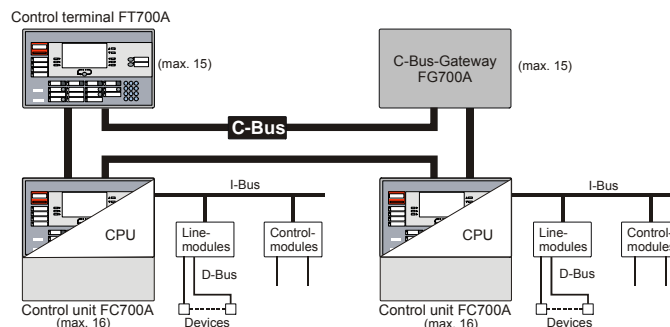
Fire detection control unit

CE

- **4 -16 Loop analogue addressable control panel**
- **128 devices per loop (SynoLOOP) and up to 1000 devices per panel**
- **Up to 24 collective lines for Synova™ 600 serie detectors can be connected**
- **Up to 16 panels, terminals or gateways can be interconnected on a peer-to-peer network (C-Bus).**
- **Integrated emergency operation feature ensures EN54 compliance even with control panels handling greater than 512 detectors.**
- **For use with Synova™ 300 and 600 series detectors**
- **Recognition of connected devices via device read in feature.**
- **Superior system integrity with isolators integral to every device**
- **Distributed intelligence protocol removes the need for shielded cable on the detection loops.**
- **Friendly user terminal with soft key guided system operation**
- **Additional LED indicators, synoptic panels and floor repeater options**
- **7 integral card slots for additional 4 loop cards, 8 Zone collective card, RS232 card, LON interface, monitored and unmonitored control modules, network gateway, and VdS module.**
- **BMS interface option via ISO1745 Protocol**
- **Powerful programming features to fit a wide range of applications.**
- **6 A / 24 VDC integral PSU with space for up to 27 Ah batteries.**

Building Technologies

Fire Safety & Security Products

System overview

Floor repeater panels

LON/Synoptic-converter

Control in-/output modules

FT700A-Visualizer, SWE700A software tool

Printer output

RS232

or

LON-Bus

Databus

Parallel indicators or synoptic/relay

Control terminal FT700A

LON interface

Databus

Building management system
ISO 1745 Protocol

Gateway FG700A

C-Bus

Parallel indicators or synoptic/relay

Databus

FDBZ

OH HI OP AI DM DF   **addressable**

up to 16 SynoLOOPs max. 1000 devices

Control unit FC700A

CPU

ABI EB AB CB DC DC DC DC

OH
HI
OP

Ventilation, Aircond. system, Elevator

SynoLINE300

DLO

OP
HI

SynoLINE600

SB

DO-Ex
DT-Ex
DF-Ex

SynoLINE600-Ex

I-Bus

Line modules

Control modules

Control module VdS

Alarm devices

Alarm reception centre (Fire department)

Fire control installation

VdS periphery:
- Fire department control panel
- Fire department key cabinet
-Main fire alarm box

FBF
FSK
HM

SynoLINE600

OP HI DLO DF DM FDBZ

SynoLINE600-Ex

DJ-Ex DM-Ex

DF-Ex DT-Ex DO-Ex

SB DC

collective

OP HI

LON-Bus

LON interface

RS232

or

mains

Printer output

Control in-/output modules

LON/Synoptic-converter

Databus

Floor repeater panels

Parallel indicators or synoptic/relay

remote access/maintenance
(FT700A-Visualizer, SWE700A)

Expansion to a complex fire detection system

The structure of the C-Bus network permits the connection of several control panels and control terminals. The C-Bus network contains max. 16 stations (user connected). Any arrangements of station types (FC/FT/FG) are possible. SynoLOOP length may be up to 1400 m (dependent on cable type).

Control terminal FT700A

(max. 15)

C-Bus-Gateway FG700A (max. 15)

C-Bus

I-Bus

CPU

Line-modules

Control-modules

D-Bus

Devices

Control unit FC700A
(max. 16)

I-Bus

CPU

Line-modules

Control-modules

D-Bus

Devices

Control unit FC700A
(max. 16)

Function

The FC700A is a modular 4 – 16 Loop fire alarm control panel for use with Synova™ analogue addressable devices. The FC700A can be self-contained or operate on a network of up to 16 panels, user terminal or BMS gateways.

Additional cards can be added to increase integral control functions and indication as well as to monitor up to 24 collective zones.

The system can be programmed via an off line, easy to use software tool to provide a powerful distributed system of unparalleled flexibility.

Functional Elements

Analogue Addressable Detection
The control panel can process the signals from all analogue addressable Synova™ 300 and 600 series detectors as well as manual call points, flame detectors and potential free contacts via input modules. All these devices incorporate an integral short circuit isolator giving maximum system integrity. A single cabling fault on a detection loop will not result in the loss of any devices and the fault can be quickly and accurately identified reducing the amount of time spent faultfinding.

The system can be programmed to select detector sensitivity and apply intelligent signal evaluation of single and multiple detectors for safe and reliable fire detection.

Collective
Collective Synova™ 600 devices can be connected to the FC700A using the E3M080 eight zone collective line card. Up to 25 detectors can be connected to each zone. Additional collective detectors can be added via the loop by using the DC1192 input / output module (24 VDC supply required).

Conventional
Synova™ 300 detectors and other 3rd party conventional detectors may be added to the system using the CB320A input module (24 VDC supply required).

Control In-/Outputs
Freely programmable monitored and unmonitored in-/outputs are available either on the detection loop using addressable in-/output modules or internally in the panel. Further in-/outputs are available using Lon Bus control modules.

Powerful programming options enable individual in-/outputs to be switched according to the application. In-/outputs can also be controlled across the network.
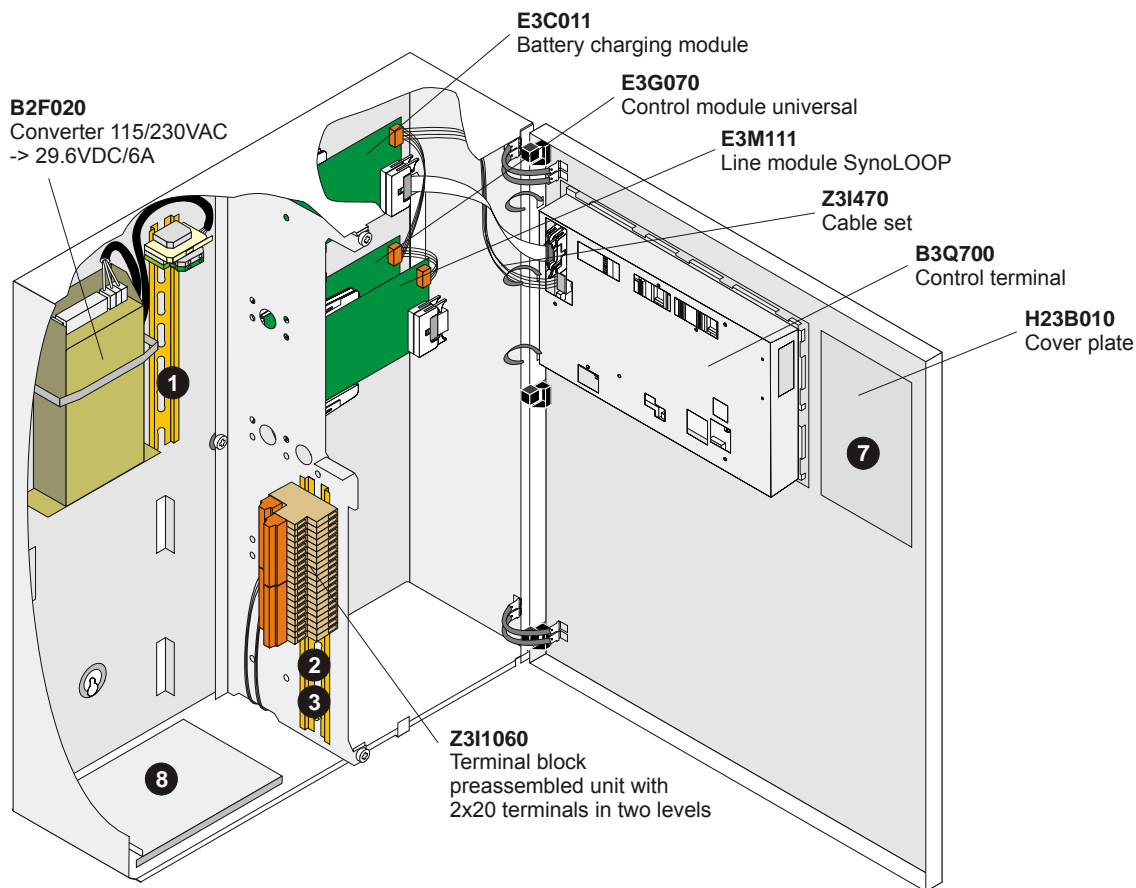
System Programming
The FC700A incorporates a phenomenal degree of flexibility in its detection and related control functions. A clear windows based software programming tool allows easy adaptation of a system to meet the most complex of applications.
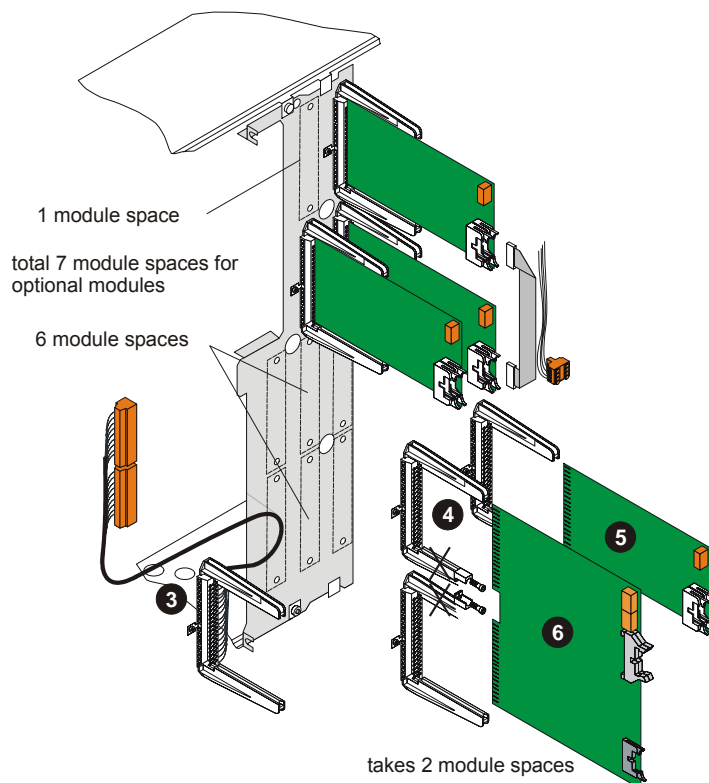
Application Ranges

- Large industrial complexes
- Shopping centres
- Large hotels
- Regional banking centres / Large office complexes
- Railway stations etc

Standard configuration fire control unit FC700A

E3C011
Battery charging module

E3G070
Control module universal

E3M111
Line module SynoLOOP

Z3I470
Cable set

B3Q700
Control terminal

H23B010
Cover plate

B2F020
Converter 115/230VAC
-> 29.6VDC/6A

Z3I1060
Terminal block
preassembled unit with
2x20 terminals in two levels

Additional card positions

1 module space

total 7 module spaces for
optional modules

6 module spaces

takes 2 module spaces

Accessories to FC700A (Options)

❶

Z3B171
Relay module,
1 changeover contact 250VAC/10A for connection to control modules programmable open collector outputs. Enables interfacing between control installations such as fire doors and plant shut down.

❷

Z3I060
Terminal block,
with 2x20 terminals in two levels for connection facility for the peripheral devices.
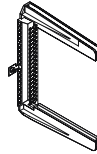Allows fast insertion of up to two additional cards when used in conjunction with the Z3I050.

❸
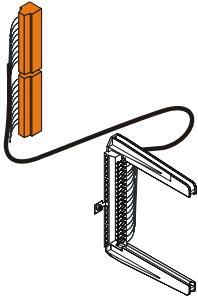
Z3I1050
Connection cable 19 conductors, ready-to-use cable with p.c.b holder and 2x10 plug-in-terminals.
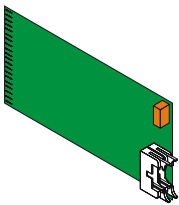Allows fast insertion of up to two additional cards when used in conjunction with the Z3I1060.

❹

Z1K030
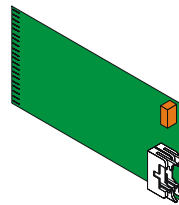P.c.b holder with integral terminal block for where more than 2 additional cards are required.

❺

E3I020
RS232 module.
Level converter with electrical isolation and EMI protection.
2 serial interfaces RS232 e.g. for printer.

E3I040
LON interface,
Converter between I-Bus and LON-Bus. Up to 32 LON-Bus devices connectable.
Monitored two-wire bus without loop line function.

E3G050
8 Way programmable relay control module.
3 x 60V 1A free programmable change over contacts.
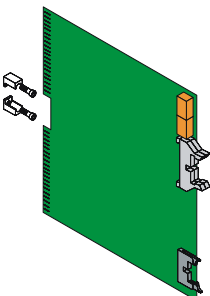5 x 60V 1A free programmable normally open contacts.

E3M080
8 Zone collective module.
8 collective stub lines each with up to 25 detectors.

❺

E3G060
6 Way programmable monitored output module.
6 x individually programmable 24VDC 2A monitored outputs.
Max 4A total load.

E3L020
16 Way input / output module.
16 x 24VDC 40mA inputs or outputs.
Each way freely programmable.
Can be used in conjunction with Z3B171 to provide 250Vac/10A control outputs.

E3M111
4 Loop analogue addressable module.
For use with Synova^{TM}300 & 600 devices.
Max 128 devices per loop.
Other connections: -
500mA 24VDC output

❻

E3H020
C-Bus-Gateway,
Connection between C-Bus network and external RS232 compatible equipment. E.g. BMS interface

E3L030
Control module 'VdS',
I-Bus module for the connection of VdS peripheral equipment.

❼

B3R051
Parallel indicator panel,
Option to control terminal FC/FT.
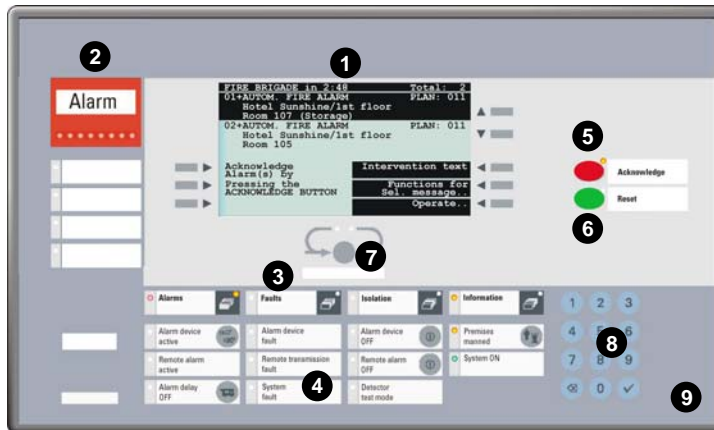Up to 8 x B3R051 per control terminal possible.

❽

Space for batteries

5

Control terminal

FC700A   Control terminal built into front terminal (also serves as main CPU)

❶

Large plain text display (LC display, 240x128 pixels) with background illumination and detailed plain text information on all occurring events:
– Event type, event location, measures texts, operating states etc.
– Directly indicated operator guidance texts in alarm situations.
– Context and system state dependent, comfortable operation with soft keys.
– Access to other system functions via function menus definable via user profile.

❷

Alarm indicator field: In case of alarm, the red writing "ALARM" lights up.

❸

Indicator fields, partly with command keys
– 4 ergonomically classified message categories: alarm, fault, isolation and information.
– The main keys are equipped with light emitting diodes, for a concise, guided operation.

❹

Insertable inscription strips in various languages

❺

Key "Acknowledge message"

❻

Key "Reset message"

❼

Key for switching forward alarm messages

❽

Function key pad for numeric inputs (password, direct selection of locations etc.)

❾

Optional key switch to enable operation

Options to control terminal
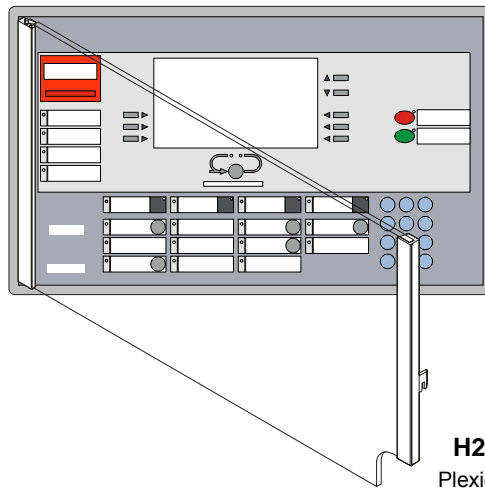
Z3S200

for the locking of doors and/or access authorization for operation

H26T030
Plexiglas door

Technical Data

Control unit		
	Mains supply voltage	115/230 VAC, +10 %/-15 %, 50/60 Hz
	Power consumption	40 ... 220 VA
	Emergency power operating	
	– Standard	12 ... 24 h
	– Optional	Up to 72 h
	Integral battery space	Up to 2 x 12 V 27 Ah sealed lead acid batteries
	Charging current	Max. 1.7 A (current limited)
	Charging characteristics	16 preset charging characteristics for correct charging of different battery makes
	Battery Monitoring	– Full symmetry monitoring – 1 V Difference
		– Battery presence test every 55 s
		– Battery load test 3 A for 10 s every 23 hr
		– Manual battery load test via keypad
	Mains monitoring	– Programmable mains fault warning delay 1 – 30 minutes
	Detection Loops – Standard panel	– 4 (Expandable – 16)
	Devices per loop	– Max. 128
	Integral input / outputs – Standard panel	– Remote transmission Alarm
		– Remote transmission Fault
		– 2 x 24 VDC / 2 A sounder circuits
		– 7 x 24 VDC / 40 mA programmable input / outputs
	24 VDC Auxiliary outputs	1 x 630 mA (Monitored for failure)
	Operating temperature	0… +40 °C
	Storage temperature	-20... +60 °C
	Humidity	≤95 % rel.
	Color housing	light grey, RAL 7035
	Dimension	520 x 602 x 155 mm
	Protection category (IEC 60529)	IP40
	Approval	
	– VdS	G204001

Details for ordering

	Type	Part no	Designation	Weight
Control unit	FC700A-1	A5Q00004734	Control unit pre-assembled (includes one E3C011, E3G070 and E3M111)	18.000 kg
Accessories control unit	E3I020	4602390001	RS232 module	0.100 kg
	E3I040	4993100001	LON interface	0.178 kg
	E3G050	4602550001	Control module 'contacts'	0.163 kg
	E3G060	5425390001	Control module 'monitored'	0.360 kg
	E3H020	5466580001	FG700A (C-Bus Gateway)	0.424 kg
	CKQ007	A5Q00005137	EPROM-Set for FG700A	0,027 kg
	E3L020	5466450001	Control module 'Drivers'	0.153 kg
	E3L030	475 9940001	Control module 'VdS'	0.352 kg
	E3M111	5115310001	Line module SynoLOOP	0.241 kg
	E3M080	4602680001	Line module 'Collective'	0.189 kg
	E3G070	5466610001	Control Module universal (Already included in the standard version)	0.203 kg
	E3C011	5054790001	Battery charging module (Already included in the standard version)	0.250 kg
	B3R051	4905130001	Parallel indicator panel	0.448 kg
	Z3I1050	A5Q00004717	Connection cable 19 conductors with terminal block and p.c.b. holder	0.164 kg
	Z1K030	4842310001	Terminal block including p.c.b. holder for additional cards	0.051 kg
	Z3I1060	A5Q00004722	Terminal block with 2 x 20 terminals 2.5 mm^2	0.220 kg
	Z3B171	4843830001	Relay module 250 VAC, 10 A	0.040 kg
	H23B010	4762100001	Cover plate for control unit housing (Already included in the standard version)	0.331 kg
	Z3I380	4755670001	I-Bus connection cable to connect the modules to the mounting section below	0.028 kg
	FCA725	A5Q00004833	Inscription stripes Spanish	
	FCA775	A5Q00004834	Inscription stripes Italian	
	FCA785	A5Q00004835	Inscription stripes Polish	
	FCA765	A5Q00012621	Inscription stripes Dutch	
	FCA835	A5Q00012730	Inscription stripes Czech	
	B3D021	5052590001	Dual RS232 ITF Box	0.183 kg
	Z3S200	5793490001	Key switch for operating panel	0.110 kg
	H26T030	5705300001	Plexiglas door to B3Q700	0.350 kg
	M3C700	A5Q00004798	USB Software dongle for the programming tool SWE700A	
	AX1201	2254870001	Battery 12 V / 27 Ah	8.460 kg
	AX1210	4755700001	Battery 12 V / 15 Ah	5.680 kg
Additional power supply	H38G310	4849300001	Housing set including door	12.750 kg
	B2F020	4705880001	Power supply 115/230 VAC -> 29.6 VAC, 6 A	0.770 kg
	Z3I470	4843410001	Cable set for additional power supply	0.057 kg
	E3C011	5054790001	Battery charging module	0.250 kg