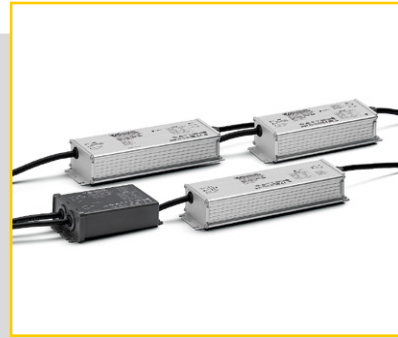


CC ComfortLine NFC



COMFORTLINE NFC S-D IP

186884, 186885, 186886, 186887

Typical Applications

Built-in in compact luminaires

- Street lighting
- Industrial lighting



PRELIMINARY

ComfortLine NFC S-D IP

- **DEGREE OF PROTECTION: IP67**
- **SELECTABLE OUTPUT CURRENT VIA NFC**
- **MIDNIGHT FUNCTION**
- **VERY LOW RIPPLE CURRENT: < 5%**
- **SURGE PROTECTION: UP TO 6 KV**
- **PREASSEMBLED CONNECTION LEADS**
- **LONG SERVICE LIFE:
UP TO 100,000 HRS.**
- **PRODUCT GUARANTEE: 5 YEARS**



ComfortLine NFC S-D IP

Product features

- Compact casing shape

Functions

- Selectable current output via NFC
- Parameterization of MidNight function via NFC

Electrical features

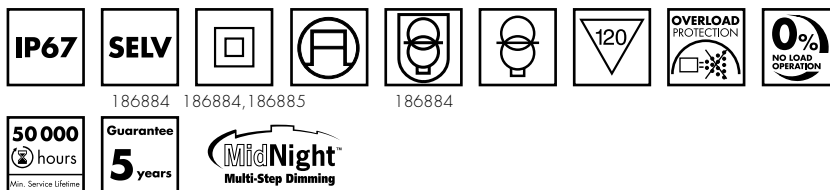
- Mains voltage: 220–240 V $\pm 10\%$
- Mains frequency: 50–60 Hz
- Pre-assembled connection leads:
primary and secondary: 3x1 mm² (17 AWG),
length: 300 mm
- Power factor at full load:
186884, 186886: > 0.97
186885: > 0.95; 186887: > 0.98
- Open circuit voltage ($U_{max.}$): 110 V (186884)
- Max. working voltage (U_{OUT}): 220 V (186885),
280 V (186886) or 350 V (186887)
- Secondary side switching of LED modules
is not allowed.

Safety features

- Protection against transient main peaks
up to 6 kV (between L and N and L/N and PE)
- Electronic short-circuit protection
- Overload protection
- Overtemperature protection
- Protection against "no load" operation
- Degree of protection: IP67
- Protection class I (186885, 186886, 186887)
- Protection class II (186884)
- SELV (except 186884)

Packaging units

| Ref. No. | Packaging unit | | |
|----------|-------------------|---------------------|-------------|
| | Pieces per box | Boxes per pallet | Weight g |
| 186884 | 20 | 720 | 510 |
| 186885 | 10 | 640 | 742 |
| 186886 | 10 | 480 | 942 |
| 186887 | 10 | 480 | 1022 |



Applied standards

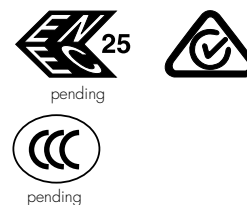
- EN 61000-3-2
- EN 61347-1
- EN 61347-2-13
- EN 61547
- EN 62384
- EN 55015

Dimensions

| Ref. No. | Casing | Length mm | Width mm | Height mm |
|----------|--------|--------------|-------------|--------------|
| 186884 | K73 | 138 | 82,4 | 38 |
| 186885 | M69 | 172,6 | 68,5 | 38,6 |
| 186886 | M70 | 212,6 | 68,5 | 38,6 |
| 186887 | M71 | 227,6 | 68,5 | 38,6 |

Product guarantee

- 5 years
- The conditions for the Product Guarantee
of the Vossloh-Schwabe Group shall apply as
published on our homepage
(www.vossloh-schwabe.com).
We will be happy to send you these conditions
upon request.



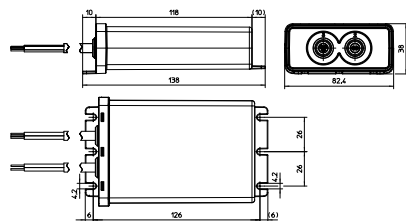
Current adjustment



The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

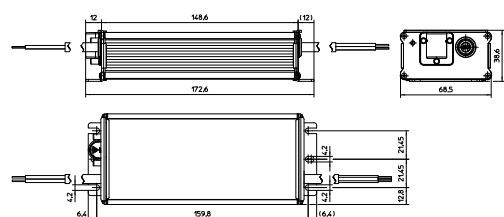
Product drawings and photos

K73



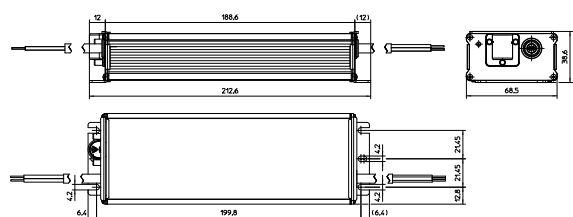
K73 – 186884

M69



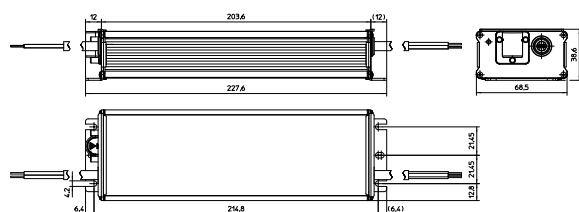
M69 – 186885

M70



M70 – 186886

M71



M71 – 186887

The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

Electrical characteristics

| Max. output W | Type | Ref. No. | Voltage 50–60 Hz V $\pm 10\%$ | Mains current mA | Inrush current A / μ s | Current output DC mA ($\pm 5\%$) | Factory settings mA | Voltage output DC (V) | THD at full load % (230 V) | Efficiency at full load % (230 V) | Ripple 100 Hz % |
|---------------|---------------|---------------|-------------------------------|------------------|----------------------------|------------------------------------|---------------------|-----------------------|----------------------------|-----------------------------------|-----------------|
| 60 | ECXe 1400.361 | 186884 | 220–240 | 300 | 50 / 220 | 400–1400 | 700 | 36–86 | 10 | 88 | < 5 |
| 100 | ECXe 1400.362 | 186885 | 220–240 | 500 | 52 / 250 | 400–1400 | 700 | 61–144 | 10 | 90.5 | < 5 |
| 150 | ECXe 1400.363 | 186886 | 220–240 | 770 | 120 / 250 | 400–1400 | 700 | 91–214 | 10 | 92 | < 5 |
| 200 | ECXe 1400.364 | 186887 | 220–240 | 950 | 128 / 300 | 400–1400 | 700 | 121–286 | 10 | 93 | < 5 |

Maximum ratings

Exceeding the maximum ratings can lead to reduction of service life or destruction of the drivers.

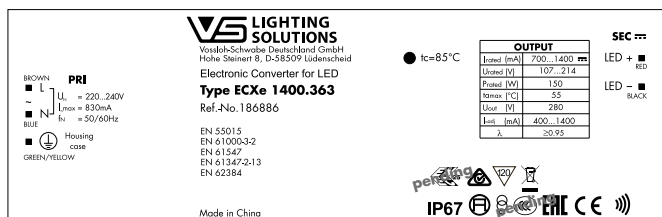
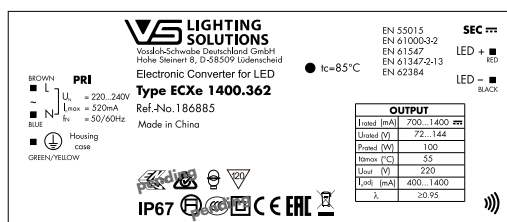
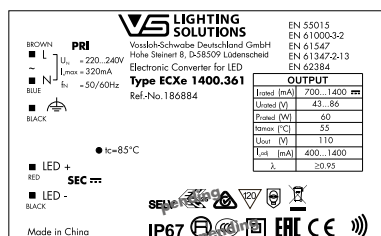
| Ref. No. | Ambient temperature range | | Operation humidity range | | Storage temperature range | | Storage humidity range | | Max. operation temperature at t_c point °C | Degree of protection |
|----------|---------------------------|---------|--------------------------|--------|---------------------------|---------|------------------------|--------|--|----------------------|
| | °C min. | °C max. | % min. | % max. | °C min. | °C max. | % min. | % max. | | |
| 186884 | -40 | +55 | 5 | 95 | -25 | +85 | 5 | 95 | +85 | IP67 |
| 186885 | | | | | | | | | | |
| 186886 | | | | | | | | | | |
| 186887 | | | | | | | | | +90 | |

Expected service life time

at operation temperatures at t_c point

| Operation current | Ref. No. 186884, 186885, 186886 | | 186887 | |
|-------------------|---------------------------------|--------|---------|--------|
| All | 75 °C | 85 °C | 80 °C | 90 °C |
| hrs. | 100,000 | 50,000 | 100,000 | 50,000 |

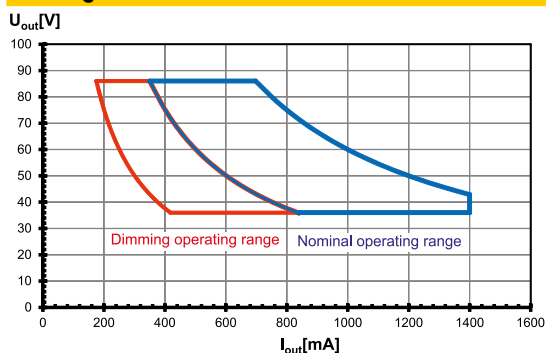
Product labels



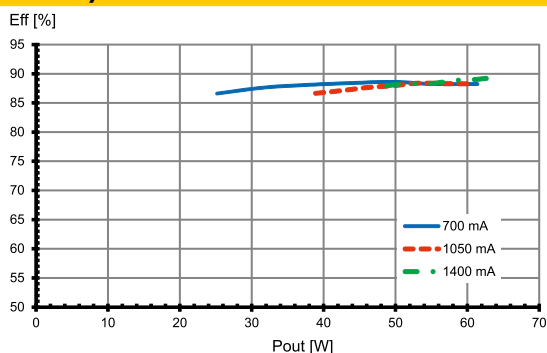
The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

Typ. performance graphs for 186884 / Type ECXe 1400.361

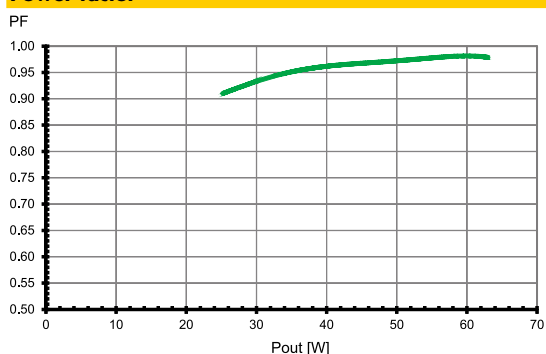
Working area



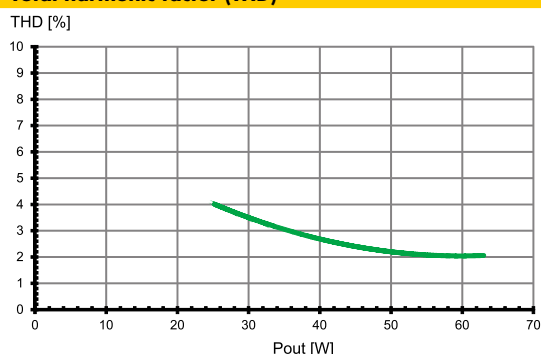
Efficiency



Power factor

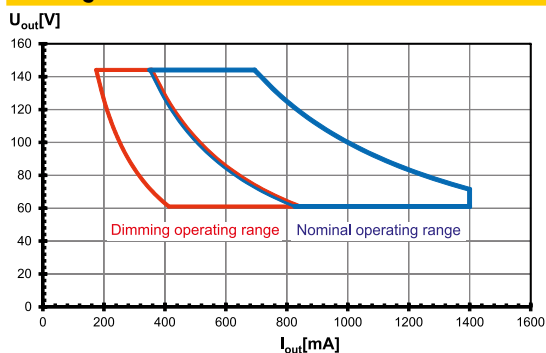


Total harmonic factor (THD)

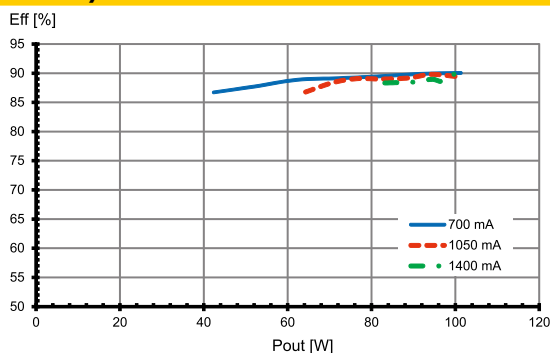


Typ. performance graphs for 186885 / Type ECXe 1400.362

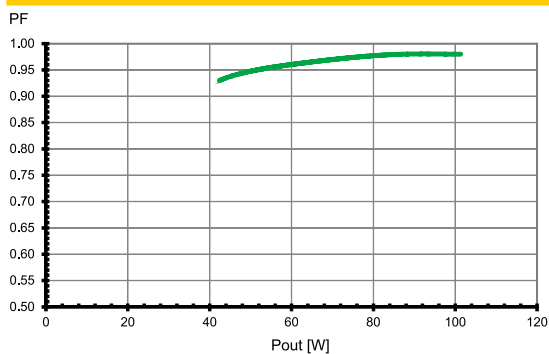
Working area



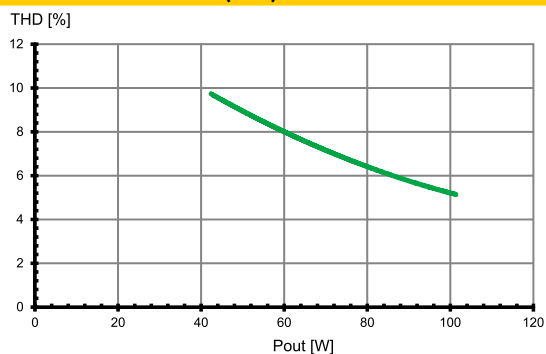
Efficiency



Power factor



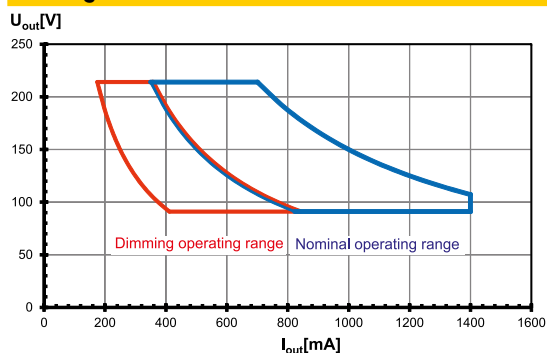
Total harmonic factor (THD)



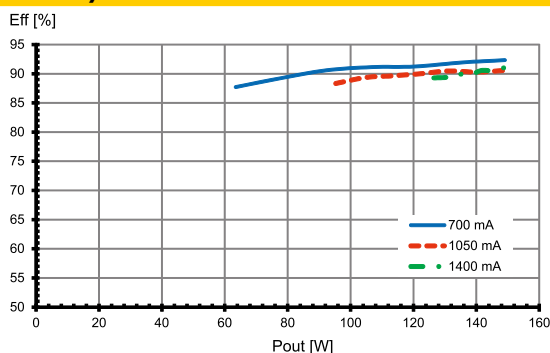
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Typ. performance graphs for 186886 / Type ECXe 1400.363

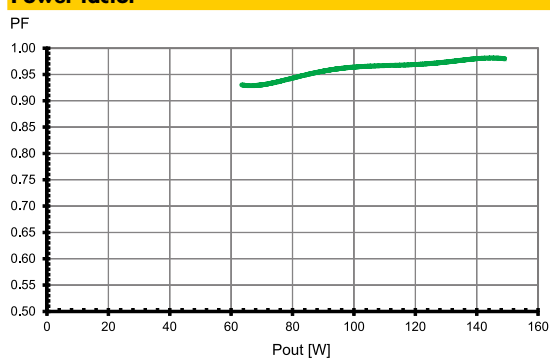
Working area



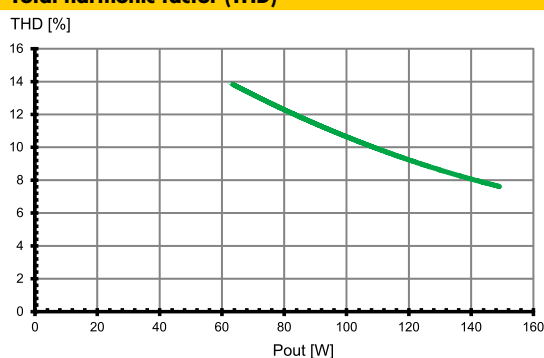
Efficiency



Power factor

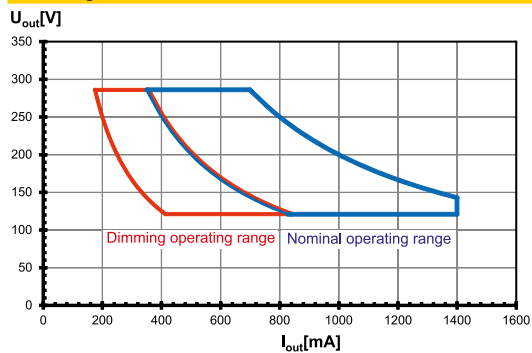


Total harmonic factor (THD)

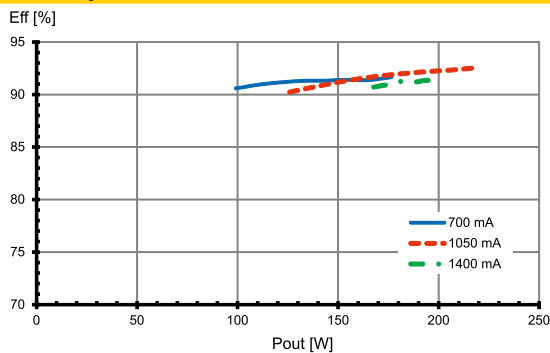


Typ. performance graphs for 186887 / Type ECXe 1400.364

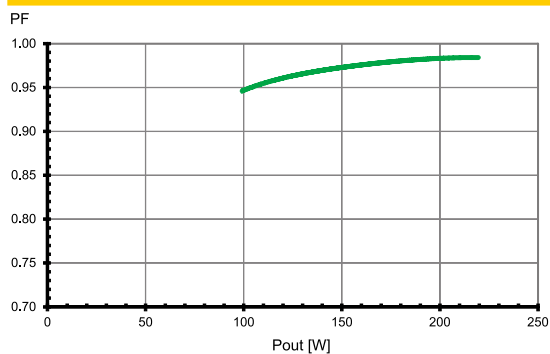
Working area



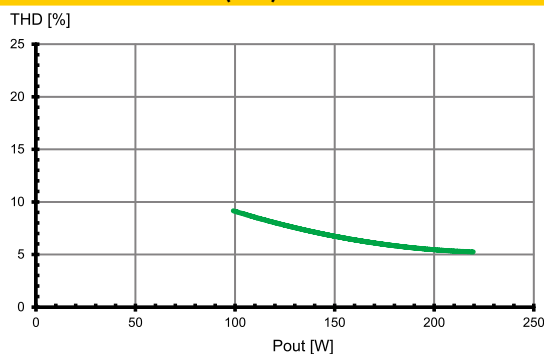
Efficiency



Power factor



Total harmonic factor (THD)



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Safety functions

- Transient mains peaks protection:
Values are in compliance with EN 61547 (interference immunity).
Surges between L-N and L/N-PE:
up to 6 kV
- Short-circuit protection: The control gear is protected against permanent short-circuit with automatic restart function.
- Overload protection: The control gears have overload protection.
In case of overload the control gear will reduce the output current.
- Overheating: The control gear has overheating protection.
In case of overheating the control gear will reduce the output current and shut down.
- No load operation: The control gear is protected against no load operation (open load) and switches off when no load is connected.
- If any of the above mentioned safety functions will be triggered, disconnect the control gear from the power supply then find and eliminate the cause of the problem.

MidNight function

Automatic dimming via an integrated timer (no real-time clock).
Five independent dimming levels and zones can be set using the Tuner4Tronic software.

System architecture

- You can program the NFC LED drivers contactless with the Feig Programmer.
- The LED driver is programmed via NFC in a de-energised state.
- The use of the NFC programmer is flexible in the production or already in the pre-assembly process. A complex commissioning is not required. The operation and parameterization is done in the simplest way. All operating parameters can be individually programmed and updated.
- The exact description of the programming can be found in the operation manual of the VS Tuner4Tronic software.



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Assembly and Safety Information

Installation must be carried out under observation of the relevant regulations and standards. Installation must be carried out in a voltage-free state (i.e. disconnection from the mains). The following advices must be observed; non-observance can result in the destruction of the LED drivers, fire and/or other hazards.

Mandatory regulations

- DIN VDE 0100
- EN 60598-1

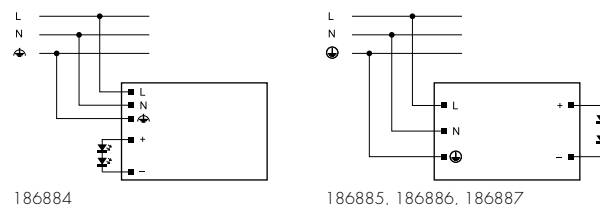
Mechanical mounting

- Mounting position: Built-in: Any position inside a luminaire is allowed
- Mounting location: LED drivers are designed for integration into luminaires or comparable devices.
Installation in outdoor luminaires: degree of protection for luminaire with water protection rate ≥ 4 (e.g. IP54 required).
- Degree of protection: IP67
- Clearance: Min. 0.10 m from walls, ceilings and insulation
- Surface: Solid and plane surface for optimum heat dissipation required.
- Heat transfer: If the driver is destined for installation in a luminaire, sufficient heat transfer must be ensured between the driver and the luminaire casing.
LED drivers should be mounted with the greatest possible clearance to heat sources.
During operation, the temperature measure at the driver's t_c point must not exceed the specified maximum value.
- Fastening: Using M4 screws in the designated holes
- Tightening torque: 0.2 Nm

Electrical installation

- Stripped length: 10 mm
- Wiring: The mains conductor within the luminaire must be kept short (to reduce the induction of interference).
Mains and lamp conductors must be kept separate and if possible should not be laid in parallel to one another.
- Polarity: Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can destroy the modules.
- Through-wiring: Is not allowed.
- Secondary load: The sum of forward voltages of LED loads has to be within the tolerances which are mentioned in the table "Electrical Characteristics" in this data sheet.

- Wiring diagram:



Selection of automatic cut-outs for VS LED drivers

- Dimensioning automatic cut-outs
High transient currents occur when an LED driver is switched on because the capacitors have to load. Ignition of LED modules occurs almost simultaneously. This also causes a simultaneous high demand for power. These high currents when the system is switched on put a strain on the automatic conductor cut-outs, which must be selected and dimensioned to suit.
- Release reaction
The release reaction of the automatic conductor cut-outs comply with VDE 0641, part 11, for B, C characteristics. The values shown in the following tables are for guidance purposes only and are subject to system-dependent change.
- No. of LED drivers
The maximum number of VS LED drivers applies to cases where the devices are switched on simultaneously. Specifications apply to single-pole fuses. The number of permissible drivers must be reduced by 20% for multi-pole fuses. The considered circuit impedance equals 400 mΩ (approx. 20 m [2.5 mm²] of conductor from the power supply to the distributor and a further 15 m to the luminaire).

| Type | Ref. No. | Automatic cut-out type and possible no. of VS drivers pcs. | | |
|---------------------------------|---------------|--|--------|--------|
| Automatic cut-out type B | | B 10 A | B 13 A | B 16 A |
| ECXe 1400.361 | 186884 | 7 | 9 | 11 |
| ECXe 1400.362 | 186885 | 6 | 8 | 9 |
| ECXe 1400.363 | 186886 | 2 | 3 | 4 |
| ECXe 1400.364 | 186887 | 2 | 2 | 3 |
| Automatic cut-out type C | | C 10 A | C 13 A | C 16 A |
| ECXe 1400.361 | 186884 | 12 | 16 | 19 |
| ECXe 1400.362 | 186885 | 10 | 13 | 16 |
| ECXe 1400.363 | 186886 | 4 | 5 | 7 |
| ECXe 1400.364 | 186887 | 3 | 4 | 5 |

- To limit capacitive inrush currents the current carrying capacity of each circuit breaker (fuse) can be increased by a factor of 2.5 with the help of our ESB (Ref. No.: 149820, 149821, 149822) inrush current limiters.

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