

# DATA SHEET

ITEM NO. 10019834

Mains switch box

UM-IV [3 x 14] 20kW 400V 63A 3A B - a ÜX 400V 50H

|                       |   |
|-----------------------|---|
| Designation           | POWER Backup 63 Symo IP EN  |
| Application           | For the Fronius Symo Hybrid or Symo GEN24 system  |
| Region                | Germany, Switzerland  |
| Network disconnection | All-pole or three-pole disconnection (initially configurable using plug-in bridges), without FRT capability |
| Net shape             | 3PH 230/400V - TN-C/TN-S or TT networks; NO TN-C network in the customer's system!                          |
| Hybrid inverter       | Symo Hybrid 3.0-3-S/4.0-3-S/5.0-3-S<br>Symo GEN24 6.0 Plus/8.0 Plus/10.0 Plus/12.0 SC                       |
| Control & Monitoring  | Fronius Smart Meter IP  |

All values in [mm]

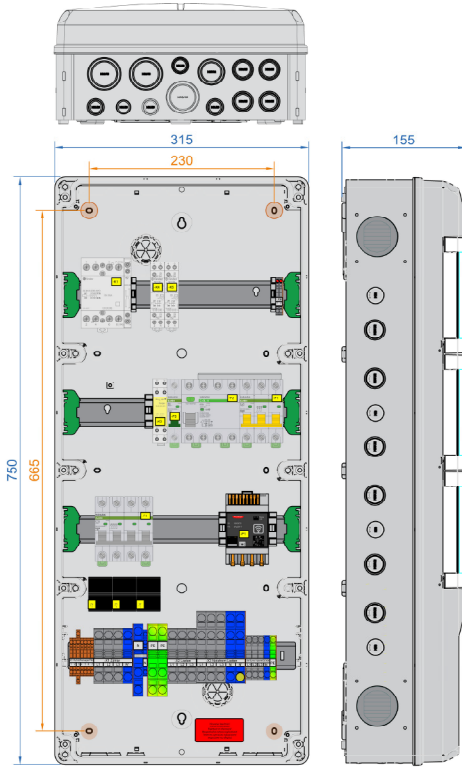
Dimensions „blue“

Fastening points „orange“

Internal arrangement and components may differ depending on the variant!

### Minimum distances

|         |     |
|---------|-----|
| above   | 200 |
| below   | 200 |
| lateral | 200 |
| front   | 800 |



## SCOPE OF DELIVERY

| Number | Designation                                | Number | Designation                                 |
|--------|--|--------|---|
| 1      | Mains switch box                           | 4      | Cable gland M32 incl. lock nut              |
| 1      | Manual                                     | 3      | Cable gland M40 incl. lock nut              |
| 1      | Operating instructions Fronius Smart Meter | 1      | Split mould insert GFD 25/01/060            |
| 1      | Circuit diagram DIN A3                     | 1 set  | Jumpers (for mains isolation configuration) |
| 1 set  | Cover caps for fastening screws            | 1      | Emergency power sticker Fronius             |
| 2      | Cable gland M20 incl. lock nut             | 1      | Warning sticker "Dangerous voltage"         |
| 1      | Cable gland M25 incl. lock nut             |        |   |

Status: (c)

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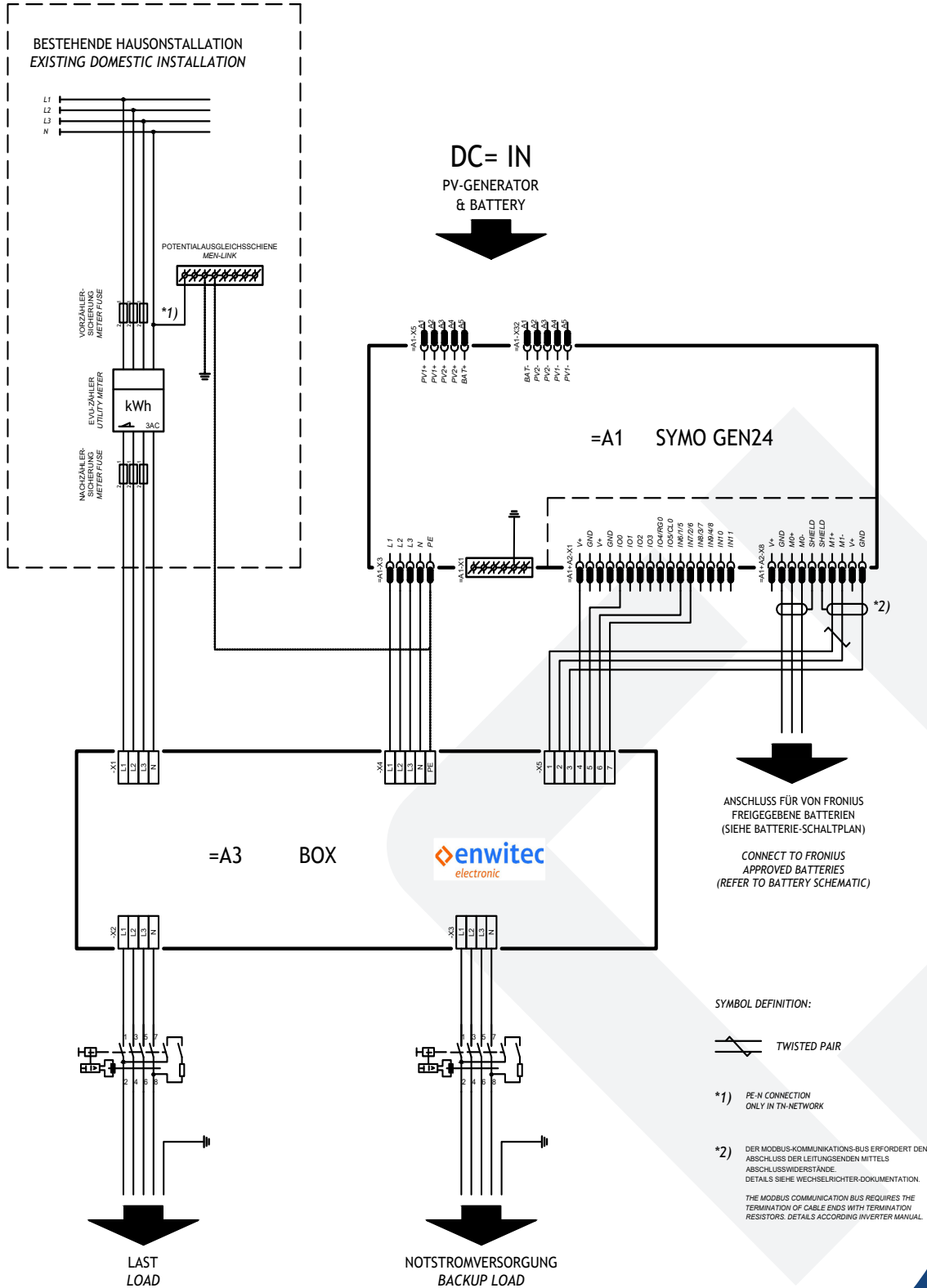
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## WIRING ENVIRONMENT VERTO PLUS



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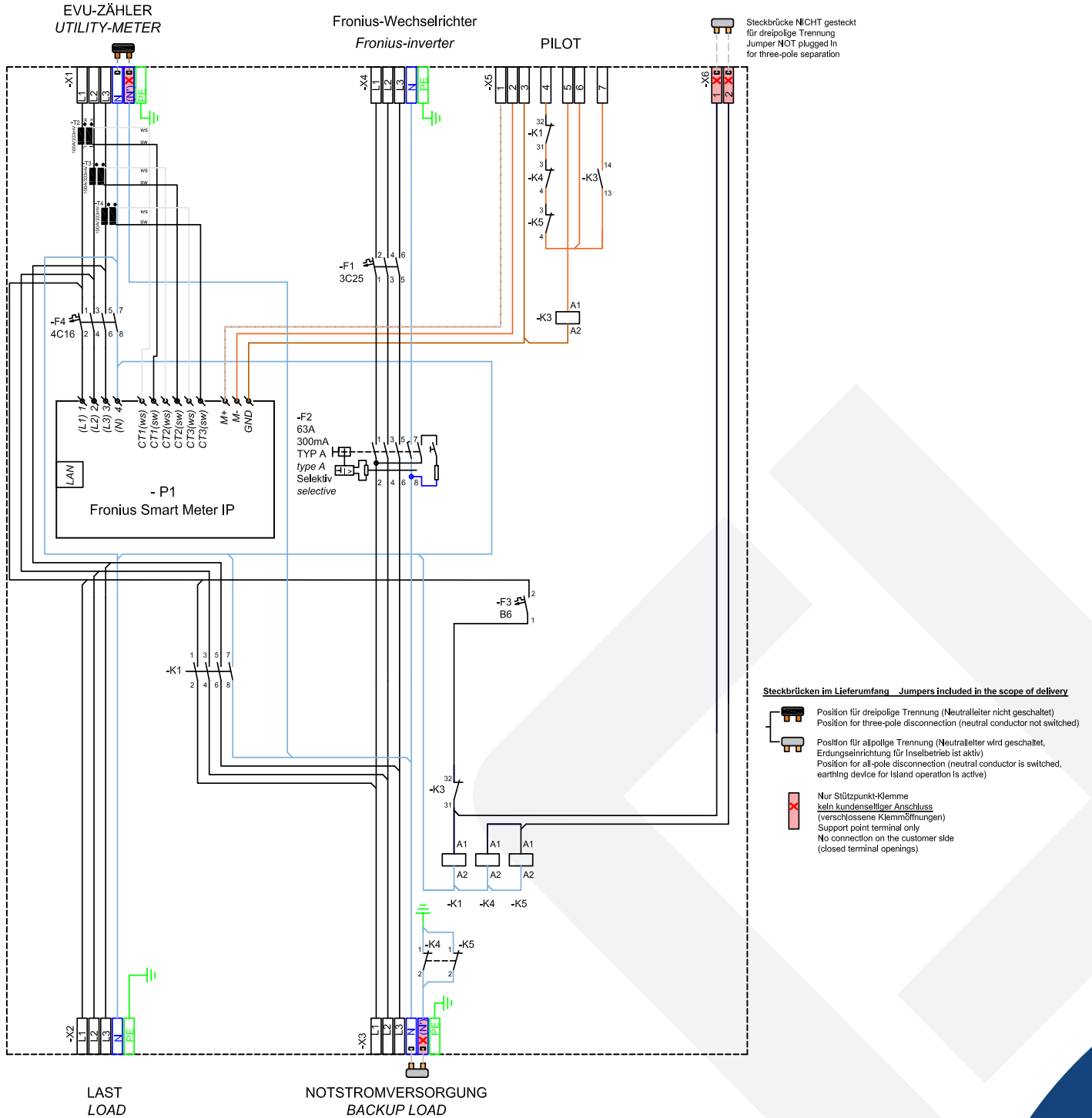
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## INTERNAL WIRING



**Steckbrücken im Lieferumfang Jumpers included in the scope of delivery**

- Position für dreipolige Trennung (Neutralleiter nicht geschaltet)  
Position for three-pole disconnection (neutral conductor not switched)
- Position für allpolige Trennung (Neutralleiter wird geschaltet, Erdungseinrichtung für Inselbetrieb ist aktiv)  
Position for all-pole disconnection (neutral conductor is switched, earthing device for island operation is active)
- Nur Stützpunkt-Klemme  
kein kundenseltiger Anschluss  
(verschlossene Klemmöffnungen)  
Support point terminal only  
No connection on the customer side  
(closed terminal openings)

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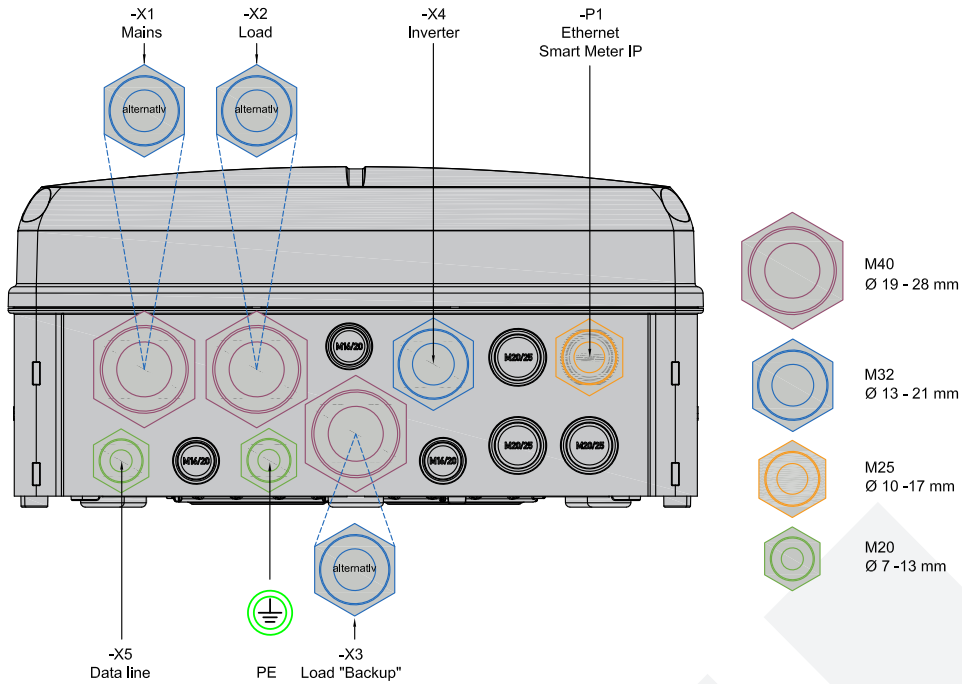
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## CABLE ENTRY AND CONNECTIONS



| Cable gland | Terminal strip                        | Clamping range [mm]             | Wire type Copper                    | max. cross-section [mm²] | Stripping length [mm] |
|-------------|---------------------------------------|---------------------------------|-------------------------------------|--------------------------|-----------------------|
| M40         | -X1 - Mains                           | 19 - 28                         | solid                               | 16                       | 18 - 20               |
|             |                                       |                                 | finely stranded                     | 25                       |                       |
|             |                                       |                                 | finely stranded with ferrule        | 16                       |                       |
| M40         | -X2 - Load                            | 19 - 28                         | solid                               | 16                       | 18 - 20               |
|             |                                       |                                 | finely stranded                     | 25                       |                       |
|             |                                       |                                 | finely stranded with ferrule        | 16                       |                       |
| M40         | -X3 - Load "Backup"                   | 19 - 28                         | ssolid                              | 16                       | 18 - 20               |
|             |                                       |                                 | finely stranded                     | 25                       |                       |
|             |                                       |                                 | finely stranded with ferrule        | 16                       |                       |
| M32         | -X4 - Fronius inverter                | 13 - 21                         | solid                               | 10                       | 13 - 15               |
|             |                                       |                                 | finely stranded                     | 10                       |                       |
|             |                                       |                                 | finely stranded with ferrule        | 6                        |                       |
| M25         | -P1 - Ethernet Fronius Smart Meter IP | split seal insert for RF45 plug | according to Fronius specifications |                          |                       |
| M20         | -X5 - Data line                       | 7 - 13                          | solid                               | 2.5                      | 9 - 11                |
|             |                                       |                                 | finely stranded                     | 2.5                      |                       |
|             |                                       |                                 | finely stranded with ferrule        | 1.5                      |                       |
| M20         | PE - Potential equalisation           | 7 - 13                          | solid                               | 16                       | 18 - 20               |
|             |                                       |                                 | finely stranded                     | 25                       |                       |
|             |                                       |                                 | finely stranded with ferrule        | 16                       |                       |

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## TECHNICAL DATA

| NOMINAL VALUES                                   |       | • applicable / - not applicable |  |
|--|-------|---------------------------------|--|
| Rated voltage                                    | [V]   | 3PH - 230/400                   |  |
| Rated insulation voltage                         | [V]   | 400                             |  |
| Operating frequency                              | [Hz]  | 50 +/- 5%                       |  |
| Rated short-time current resistance $I_{cw}$     | [N/A] | 10                              |  |
| Permissible mesh shape                           |       | TN-C / S / TT / TN-S            |  |
| Network disconnection                            |       | all-pole or three-pole          |  |
| Max. mains-side backup fuse                      | [A]   | 63                              |  |
| Max. thermal throughput $t_a = 35^\circ\text{C}$ | [kW]  | 20                              |  |
| Standby losses, approx.                          | [W]   | 12                              |  |

| CIRCUIT BREAKERS AND RESIDUAL CURRENT CIRCUIT BREAKERS |                                 |         |                            |
|--|---------------------------------|---------|----------------------------|
| F1   | Verto Plus                      | MCB[A]  | 3C25                       |
| F2   | Verto Plus                      | RCD[A]  | Type A - selective, 63/0.1 |
| F3   | „Mains“ control circuit         | MCB [A] | B6                         |
| F4   | Voltage measurement Smart meter | MCB [A] | 4C16                       |

| PROTECTIVE DEVICE (IEC/EN 61095; IEC/EN60947-1; IEC 60947-5-1) |                     |         |     |
|--|---------------------|---------|-----|
| K1   | Mains disconnection | AC1 [A] | 63  |
| K4/K5  | Earthing device     | AC1 [A] | 25  |
| K3   | Communication       | AC1 [A] | 10  |
| K1/K4/K5   | Control voltage     | [V]     | 230 |
| K3   | Control voltage     | [V]     | 12  |
| Hum-free   |                     |         | •   |

| ENERGY METER |         |
|--------------|---------|
| Manufacturer | Fronius |
| Type         | IP      |

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## TECHNICAL DATA

| CURRENT TRANSFORMER |     | • applicable / - not applicable |
|---------------------|-----|---------------------------------|
| Accuracy class      |     | 1                               |
| Primary current     | [A] | 100                             |

| CONFIGURATION OF POWER DISCONNECTION BY MEANS OF PLUG-IN BRIDGES (included in delivery) |                          |   |
|---|--------------------------|---|
| <b>THREE-POLE</b>   |                          |   |
| X1 - plugged between N-N'   | 16(25) mm <sup>2</sup>   |    |
| X6 - not plugged in   | 1.5(2.5) mm <sup>2</sup> |   |
| <b>ALLPOLE</b>  |                          |   |
| X3 - plugged between N-N'   | 16(25) mm <sup>2</sup>   |  |
| X6 - plugged between 1-2  | 1.5(2.5) mm <sup>2</sup> |  |

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## TECHNICAL DATA

| GENERAL  |      | • applicable / - not applicable |
|--|------|---------------------------------|
| Dimensions WxHxD (without screw connections)       | [mm] | 315 x 750 x 155                 |
| Weight, approx.                                    | [kg] | 10 <sup>±</sup>                 |
| Operating temperature range                        | [°C] | -5...+35                        |
| Temperature - Transport/Storage (24 hours at 70°C) | [°C] | -25...+55                       |
| Humidity - condensation permitted                  |      | -                               |
| Humidity - permissible range                       | [%]  | 5...60                          |
| Degree of contamination                            |      | 2                               |
| max. installation height above sea level           | [m]  | 2000                            |
| Protection class IP (EN 60529)                     |      | 30                              |
| Suitability for outdoor use (protected area)       |      | -                               |
| Installation type                                  |      | Interior                        |
| Protection class (EN 61140)                        |      | II                              |
| Housing material                                   |      | Polycarbonate                   |
| RoHS compliant (2011/65/EU)                        |      | •                               |
| Housing colour                                     |      | Similar to RAL 7035             |
| Lid  |      | Transparent                     |
| Type of installation                               |      | Wall mounting                   |
| Closure type                                       |      | Without tools                   |

| MISCELLANEOUS |          |
|---------------|----------|
| Tariff number | 85371098 |

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