Household switchboards

Domae

The right solution for every home

Household guide

2002
Household switchboards

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2002
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Domae
A manufacturer’s know-how...

Safety of people and equipment is top on the list of priorities for electrical installation professionals who must demand products designed and produced by a manufacturer, guaranteeing:

- compliance with electrical switchgear manufacturing standards,
- a high performance industrial process, producing quality switchgear complete with their quality certificates.

Conform to European and international standards

Merlin Gerin guarantees conformity of Domae products to European and international standards for construction of equipment intended for domestic and similar installations:

- **EN 60898 - IEC 60898:** “Overcurrent protection circuit-breakers”.
- **EN 61008 - IEC 61008:** “Automatic residual current circuit-breakers”.
- **EN 61095 - IEC 61095:** “Electromechanical contactors”.
- **EN 61669-2-2 - IEC 60669-2-2:** “Electromagnetic remote control switches (impulse relays)” a specific specification taken from the “Fixed installation switch” standard.
- **IEC 61643-1:** “Overvoltage protection devices connected to LV distribution networks”.
- **IEC 60670:** “General rules concerning switchgear enclosures for fixed electrical installations for household or similar use”.

Install according to proper practices


The installation diagrams and recommendations proposed in this guide conform to this standard.

For Domae, ISO 9001/2000 certified production plants

Benefiting from the international experience of the 26 Merlin Gerin modular switchgear development and production plants, the Domae switchgear are all produced in ISO 9001/2000 certified plants.

From design through to dispatch, ISO certification guarantees professional organisation and consistent quality of products.
CE marking

Domae: Aenor □ approved

The quality marks prove product conformity to their reference standard. They guarantee:
- safety of installers,
- suitability of products for their use.

Merlin Gerin guarantees that all Domae switchgear will have the Aenor □ quality mark. This approval was awarded on completion of tests performed in an approved laboratory in the presence of independent third parties. This third-party organisation monitors conformity to the quality mark by means of new tests conducted after random sampling.

For electrocution protection:
Domae residual current circuit-breakers

For short-circuit and overload protection:
Domae circuit-breakers

For easy installation:
Domae enclosures

For quick connection:
Domae comb busbars

For lightning protection:
Surge arrester

For remote control:
Impulse relay and contactor

Guaranteed quality
Domae products can be easily identified by their new design

Domae circuit-breaker

- Tripping curve: (C curve suitable for household applications)
- Rating: (max. current rating: 6, 10, 16, 20, 25 or 32 A)
- Breaking capacity: (max short-circuit current: 3000, 4500 or 6000 A)
- Limitation class: 3
- Voltage rating: (230 or 400 AC)
- Overall size: (1 or 2)

Domae residual current circuit-breaker

- Rating: (max. current rating: 25, 40 or 63 A)
- Sensitivity: (30 or 300 mA)
- Voltage rating: (230 or 400 V AC)
- Overall size: (2 or 4)

Domae comb busbar

- Sales cat. no: (Length: 12)
- Nominal current: 63 A (cross-section 10 mm²)
- Brand: Merlin Gerin

Surge arrester, Contactor, Impulse relay

To perform lightning protection and remote control functions, surge arresters, impulse relays and contactors can be incorporated in all Domae switchboards.

Consult the General Catalogue.
The Domae enclosures

- **Colour:**
  - white RAL 9003
- **Material:**
  - insulating self-extinguishing material flame resistance 650°/30 s
- **Degree of protection against solids:**
  - IP40 (protected against solids dia. > 1mm)
- **Degree of protection against impacts:**
  - IK 07 (protected against impacts < 2 joules / 0.5 kg)
- **Class of protection against indirect contacts:**
  - class 2
- **Capacity:**
  - 4, 6, 8, 12, 18, 24 or 36

**Domae surface-mounted enclosure**

- **Back:**
  - Easy to position:
    - centred oblong opening (equipped with a class 2 enclosure insulating plug)
    - vertical position adjustment oblong holes (equipped with a class 2 enclosure insulating plug)
  - Convenient to install:
    - Cable insertion by drilling pre-punched out zones
  - Convenient to install:
    - terminal blocks
- **Cover:**
  - Professional:
    - circuit identification by self-adhesive strip (enclosure delivered with one strip per row)
    - sheets of symbols to be pasted and key-lock for door locking (to be ordered separately)
  - Identification of the household range:

**Domae flush-mounted enclosure**

- **Tank:**
  - Easy to flush mount:
    - thin (depth: 7 cm)
    - flush-mounting in masonry
    - flush-mounting kit for hollow partition
  - Convenient to install:
    - Tube insertion by drilling pre-punched out zones
  - Quick to connect:
    - terminal blocks
- **Cover:**
  - Design:
    - curved door
    - blanking plate
  - Professional:
    - circuit identification by self-adhesive strip (enclosure delivered with one strip per row)
    - sheets of symbols to be pasted and key-lock for door locking (to be ordered separately)
  - Identification of the household range:
Domae
Electrical hazards in the home

Choice of protection devices

**Short-circuit and overload protection**

- "Power socket circuit": 1 protection device for 8 sockets maximum
  - Cables: 2.5 mm²
  - Protection: C16 circuit-breaker

- "Lighting circuit": 1 protection device for 10 lighting points maximum
  - Cables: 1.5 mm²
  - Protection: C10 circuit-breaker

- "Specific circuit": 1 protection device by appliance (washing machine, cooker, water heater, etc.)
  - Cables: 4 mm²
  - Protection: C32 circuit-breaker

**Electrocution protection**

- 1 protection device for the "power socket circuit" and "specific circuit" assembly
  - Protection: 30 mA residual current circuit-breaker

**Fire protection**

- 1 general protection device
  - Protection: 300 mA ID residual current circuit-breaker

**Lightning protection**

- 1 general protection device
  - Protection: STD surge arrester

**Everyday comfort**

**Multiple control for lighting circuit**

- 1 relay by multiple control circuit
- Commande: TL impulse relay

**Power control**

- 1 relay by specific circuit
- Commande: CT contactor
# Standard equipment for the home

<table>
<thead>
<tr>
<th>Surface area</th>
<th>60 m²</th>
<th>100 m²</th>
<th>&gt;100 m²</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Subscribed demand</strong></td>
<td>3000 VA</td>
<td>6000 VA</td>
<td>&gt;6000 VA</td>
</tr>
<tr>
<td>&quot;Household incoming&quot; connection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Number of &quot;power socket&quot; circuits</strong></td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Number of &quot;lighting circuits&quot;</strong></td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>Number of &quot;specific circuits&quot;</strong></td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

**Distribution**

- **Living room**
  - 1 socket for 6 m²
  - 1 lighting for 20 m²
- **Bedroom**
  - 1 lighting
  - 2 sockets
- **Kitchen**
  - 1 lighting
  - 3 sockets
- **Bathroom**
  - 1 lighting
  - 1 socket
- **Entrance hall**
  - 1 lighting
  - 1 socket
- **Garage and outside**
  - 1 lighting
  - 1 socket for 5 m²
The switchboard for a 60 m² home
- 1 residual current circuit-breaker
  2 poles
  25A 30mA

- 1 circuit-breaker
  2 poles
  C10

- 1 circuit-breaker
  2 poles
  C16

- 1 surface-mounted enclosure
  (equipped with a 8-hole earthing terminal block)
  B

- 1 comb busbar
  for 2-pole distribution
  10389

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Cat. no</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residual current circuit-breaker</td>
<td>16790</td>
</tr>
<tr>
<td>Circuit-breaker</td>
<td>12992</td>
</tr>
<tr>
<td>Circuit-breaker</td>
<td>12993</td>
</tr>
<tr>
<td>Surface-mounted enclosure</td>
<td>13648</td>
</tr>
<tr>
<td>Comb busbar</td>
<td>10389</td>
</tr>
</tbody>
</table>
Domae
Applications

The switchboard for a 100 m² home
<table>
<thead>
<tr>
<th>Item Description</th>
<th>Cat. no</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 residual current circuit-breaker</td>
<td>16792</td>
</tr>
<tr>
<td>2 poles</td>
<td></td>
</tr>
<tr>
<td>40A 30mA</td>
<td></td>
</tr>
<tr>
<td>1 circuit-breaker</td>
<td>12996</td>
</tr>
<tr>
<td>2 poles</td>
<td></td>
</tr>
<tr>
<td>C32</td>
<td></td>
</tr>
<tr>
<td>1 circuit-breaker</td>
<td>12992</td>
</tr>
<tr>
<td>2 poles</td>
<td></td>
</tr>
<tr>
<td>C10</td>
<td></td>
</tr>
<tr>
<td>2 circuit-breakers</td>
<td>12993</td>
</tr>
<tr>
<td>2 poles</td>
<td></td>
</tr>
<tr>
<td>C16</td>
<td></td>
</tr>
<tr>
<td>1 surface-mounted enclosure (equipped with a 8-hole earthing terminal block)</td>
<td>13649</td>
</tr>
<tr>
<td>1 comb busbar for 2-pole distribution</td>
<td>10389</td>
</tr>
</tbody>
</table>
Domae
Applications

The switchboard for a home of more than 100 m²
<table>
<thead>
<tr>
<th>Item Description</th>
<th>Cat. no</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 residual current circuit-breaker 2 poles</td>
<td>16792</td>
</tr>
<tr>
<td>2 circuit-breakers 2 poles</td>
<td>12996</td>
</tr>
<tr>
<td>2 circuit-breakers 2 poles</td>
<td>12992</td>
</tr>
<tr>
<td>2 circuit-breakers 2 poles</td>
<td>12993</td>
</tr>
<tr>
<td>1 surface-mounted enclosure (equipped with a 8-hole earthing terminal block)</td>
<td>13691</td>
</tr>
<tr>
<td>1 comb busbar for 2-pole distribution</td>
<td>10389</td>
</tr>
</tbody>
</table>
Surface-mounted enclosures
Flush-mounted enclosures
## Choice of switchgear for a *Domae* switchboard

### Choice of switchgear

<table>
<thead>
<tr>
<th>Rating (A)</th>
<th>Cat. no</th>
<th>Qty</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residual current circuit-breakers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4P-30 mA</td>
<td>25</td>
<td>16807</td>
<td></td>
</tr>
<tr>
<td></td>
<td>40</td>
<td>16810</td>
<td></td>
</tr>
<tr>
<td>Sum of residual current circuit-breakers 4P</td>
<td>=</td>
<td>x 4</td>
<td></td>
</tr>
<tr>
<td>2P-30 mA</td>
<td>25</td>
<td>16790</td>
<td></td>
</tr>
<tr>
<td></td>
<td>40</td>
<td>16792</td>
<td></td>
</tr>
<tr>
<td>Sum of residual current circuit-breakers 2P</td>
<td>=</td>
<td>x 2</td>
<td></td>
</tr>
<tr>
<td>Circuit-breakers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1P</td>
<td>10</td>
<td>12912</td>
<td></td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>12913</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>12914</td>
<td></td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>12915</td>
<td></td>
</tr>
<tr>
<td></td>
<td>32</td>
<td>12916</td>
<td></td>
</tr>
<tr>
<td>Sum of circuit-breakers 1P</td>
<td>=</td>
<td>x 1</td>
<td></td>
</tr>
<tr>
<td>2P</td>
<td>10</td>
<td>12992</td>
<td></td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>12993</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>12994</td>
<td></td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>12995</td>
<td></td>
</tr>
<tr>
<td></td>
<td>32</td>
<td>12996</td>
<td></td>
</tr>
<tr>
<td>Sum of circuit-breakers 2P</td>
<td>=</td>
<td>x 2</td>
<td></td>
</tr>
</tbody>
</table>

**Total dimensions**

### Choice of enclosure

<table>
<thead>
<tr>
<th>Type of installat.</th>
<th>Enclosure maximum capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Flush-mounted</td>
<td>13356</td>
</tr>
<tr>
<td>Surface-mounted</td>
<td>13646</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of rows</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 row</td>
</tr>
<tr>
<td>2 row</td>
</tr>
<tr>
<td>3 row</td>
</tr>
</tbody>
</table>

### Choice of comb busbars

<table>
<thead>
<tr>
<th>Distribution in enclosure</th>
<th>Cat. no</th>
<th>Qty of comb busbars per enclosure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1P</td>
<td>10387</td>
<td>1</td>
</tr>
<tr>
<td>2P</td>
<td>10389</td>
<td></td>
</tr>
<tr>
<td>4P</td>
<td>10393</td>
<td></td>
</tr>
</tbody>
</table>

### Choice of accessories

<table>
<thead>
<tr>
<th>Accessories</th>
<th>Cat. no</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

List in the table opposite the accessories presented on page 17 that you would like to order.
## Accessories

### Accessories for comb busbar

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Cat. no</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 end pieces 2P</td>
<td>10398</td>
</tr>
<tr>
<td>4P</td>
<td>10405</td>
</tr>
<tr>
<td>4 connectors 35 mm²</td>
<td>10397</td>
</tr>
<tr>
<td>10 tooth shields</td>
<td>10396</td>
</tr>
</tbody>
</table>

### Terminal block brackets for enclosure

<table>
<thead>
<tr>
<th>Bracket Type</th>
<th>Cat. no</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 tooth</td>
<td>13361</td>
</tr>
<tr>
<td>6 tooth</td>
<td>13362</td>
</tr>
<tr>
<td>8 tooth</td>
<td>13363</td>
</tr>
<tr>
<td>18 tooth</td>
<td>13381</td>
</tr>
<tr>
<td>12, 24, 36 tooth</td>
<td>13364</td>
</tr>
</tbody>
</table>

### Terminal blocks

<table>
<thead>
<tr>
<th>Width (mm)</th>
<th>Holes 10 mm²</th>
<th>Holes 16 mm²</th>
</tr>
</thead>
<tbody>
<tr>
<td>85</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>85</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>202</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>202</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>202</td>
<td>16</td>
<td>16</td>
</tr>
</tbody>
</table>

### Blanking plate

- Batch of 10: 13229

### Key-lock

- For 1 row enclosure: 14180
- For 2 and 3 row enclosure: 13315

### Flush-mounting kit in hollow partition

- Symbol sheets: 13360

### Using the order form

#### Residual current circuit-breakers

<table>
<thead>
<tr>
<th>Rating (A)</th>
<th>Cat. no</th>
<th>Qty</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>4P 25</td>
<td>16807</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Sum of residual current circuit-breakers

\[ \sum \text{4P} = 25 \times 4 \]
\[ \sum \text{2P} = 25 + 40 \times 2 \]

#### Circuit-breakers

<table>
<thead>
<tr>
<th>Rating (A)</th>
<th>Cat. no</th>
<th>Qty</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1P 10</td>
<td>12912</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>12913</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>12914</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>12915</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>12916</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Sum of circuit-breakers

\[ \sum \text{1P} = 10 \times 1 \]
\[ \sum \text{2P} = 10 + 16 + 20 + 25 + 32 \]

#### Total dimensions

\[ = 12 + 14 \]

### Distribution in enclosure

<table>
<thead>
<tr>
<th>Enclosure capacity</th>
<th>Cat. no</th>
</tr>
</thead>
<tbody>
<tr>
<td>1P</td>
<td>10387</td>
</tr>
<tr>
<td>2P</td>
<td>10389</td>
</tr>
<tr>
<td>4P</td>
<td>10393</td>
</tr>
</tbody>
</table>

### Number of rows

<table>
<thead>
<tr>
<th>Rows</th>
<th>Num.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

### Ordering Domae products

Ordering Domae products for the switchboard of a home of more than 100 m² (see pages 12 and 13).