Panel instruments

Schneider Electric panel instruments reliably comply with the most stringent standards, including IEC, MID, UL, etc., and we thoroughly test all products with recognized, third-party laboratories.

Our products are simple to install, configure, and use. This saves our partners time and money and lets them deliver the best solutions in a timely and cost-effective manner. Whatever the size or type of application, the PowerLogic™ product line is an integral part of smart panels.
**Function**

**iAMP**
Ammeters measure the current flowing through an electric circuit in amps.

**iVL T**
Voltmeters measure the potential (voltage) difference of an electric circuit in volts.

**Common technical data**
- Accuracy: Class 1.5.
- Complies with standards IEC 60051-1, IEC 61010-1 and IEC 61000-4.
- Ferromagnetic device.
- Pseudo-linear scale over 90°.
- Ammeters (except catalog number 16029):
  - connection on CT, ratio In/5, to be ordered separately
  - interchangeable dials.
- Temperature:
  - operating temperature: -25 °C to 55 °C
  - reference temperature: 23 °C
- Influence of temperature on accuracy: ±0.03 %/°C.
- Utilisation frequency: 50 Hz to 60 Hz.
- Consumption:
  - AMP: 1.1 VA
  - VLT catalog number 15060: 2.5 VA
  - VLT catalog number 16061: 3.5 VA.
- Permanent overload:
  - AMP: 1.2 In
  - VLT: 1.2 Un.
- Maximum overload for 5 s:
  - AMP: 10 In
  - VLT: 2 Un.
- Connection: tunnel terminals for 1.5 to 6 mm² rigid cables.

**Commercial reference numbers**

<table>
<thead>
<tr>
<th>Type</th>
<th>Scale</th>
<th>Connection with CT</th>
<th>Width in mod. of 9 mm</th>
<th>Comm. ref. no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>iAMP with direct connection</td>
<td>0-30 A</td>
<td>no</td>
<td>8</td>
<td>16029</td>
</tr>
<tr>
<td>iAMP with connection on CT</td>
<td></td>
<td>X/5</td>
<td>8</td>
<td>16030</td>
</tr>
<tr>
<td>Basic device</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(delivered without dial)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dial</td>
<td>0-5 A</td>
<td></td>
<td></td>
<td>16032</td>
</tr>
<tr>
<td></td>
<td>0-50 A</td>
<td>50/5</td>
<td></td>
<td>16033</td>
</tr>
<tr>
<td></td>
<td>0-75 A</td>
<td>75/5</td>
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<td>16034</td>
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<td></td>
<td>0-100 A</td>
<td>100/5</td>
<td></td>
<td>16035</td>
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<tr>
<td></td>
<td>0-150 A</td>
<td>150/5</td>
<td></td>
<td>16036</td>
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<td></td>
<td>0-200 A</td>
<td>200/5</td>
<td></td>
<td>16037</td>
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<tr>
<td></td>
<td>0-250 A</td>
<td>250/5</td>
<td></td>
<td>16038</td>
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<td>0-300 A</td>
<td>300/5</td>
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</tr>
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<td></td>
<td>0-400 A</td>
<td>400/5</td>
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<td>16040</td>
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<tr>
<td></td>
<td>0-500 A</td>
<td>500/5</td>
<td></td>
<td>16041</td>
</tr>
<tr>
<td></td>
<td>0-600 A</td>
<td>600/5</td>
<td></td>
<td>16042</td>
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<tr>
<td></td>
<td>0-800 A</td>
<td>800/5</td>
<td></td>
<td>16043</td>
</tr>
<tr>
<td></td>
<td>0-1000 A</td>
<td>1000/5</td>
<td></td>
<td>16044</td>
</tr>
<tr>
<td></td>
<td>0-1500 A</td>
<td>1500/5</td>
<td></td>
<td>16045</td>
</tr>
<tr>
<td>iVL T</td>
<td>0-300 V</td>
<td></td>
<td>8</td>
<td>16060</td>
</tr>
<tr>
<td></td>
<td>0-500 V</td>
<td></td>
<td>8</td>
<td>16061</td>
</tr>
</tbody>
</table>

See your Schneider Electric representative for complete ordering information.
PANEL INSTRUMENTS FUNCTIONS AND CHARACTERISTICS

Function

**iAMP**
Ammeters measure in amps the current flowing through an electric circuit.

**iVL T**
Voltmeters measure in volts the potential (voltage) difference of an electric circuit.

**iFRE**
Frequency meters measure in hertz the frequency of an electric circuit from 20 to 600 V AC.

Common technical data

- Supply voltage: 230 V AC
- Operating frequency: 50 Hz to 60 Hz.
- Display by red LED: 3 digits, h = 8 mm (0.31 in).
- Accuracy at full-scale: 0.5 % ±1 digit.
- Consumption: max. 5 VA or rated 2.5 VA.
- Degree of protection:
  - IP40 on front face.
  - IP20 at terminal level.
- Connection: tunnel terminals for 2.5 mm2 cables.

Specific data

**10 A direct reading ammeter**
- Minimum value measured: 4 % of rating.
- Measurement input consumption: 1 VA.

**Multi-rating ammeter**
- Ratings:
  - in direct reading: 5 A.
  - by CT (not supplied) configurable on the front face of the ammeter: 10, 15, 20, 25, 40, 50, 60, 100, 150, 200, 250, 400, 500, 600, 800, 1000, 1500, 2000, 2500, 4000, 5000 A.
- Minimum value measured: 4 % of rating.
- Measurement input consumption: 0.55 VA.

**Voltmeter**
- Direct measurement: 0...600 V AC
- Input impedance: 2 MW.
- Minimum value measured: 4 % of rating.

**Frequency meter**
- Minimum value measured: 20 Hz.
- Maximum value measured: 100 Hz.
- Full-scale display: 99.9 Hz.

Compliance with standards

- Safety: IEC/EN 61010-1.

Commercial reference numbers

<table>
<thead>
<tr>
<th>Type</th>
<th>Scale</th>
<th>Connection with CT</th>
<th>Width in mod. of 9 mm</th>
<th>Comm. ref. no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct reading iAMP</td>
<td>0-10 A</td>
<td>No</td>
<td>4</td>
<td>15202</td>
</tr>
<tr>
<td>Multi-rating iAMP</td>
<td>0-5000 A</td>
<td>As per rating</td>
<td>4</td>
<td>15209</td>
</tr>
<tr>
<td>iVL T</td>
<td>0-600 V</td>
<td></td>
<td>4</td>
<td>15201</td>
</tr>
<tr>
<td>iFRE</td>
<td>20-100 Hz</td>
<td></td>
<td>4</td>
<td>15208</td>
</tr>
</tbody>
</table>

See your Schneider Electric representative for complete ordering information.
**Function**

The 72 x 72 measurement devices are designed for flush-mounted installation on doors, wicket doors and front plates of enclosures and cubicles.

**AMP**
The ammeters measure in amps the current flowing through an electrical circuit.

**VLT**
The voltmeter measure in volts the potential difference (voltage) of an electrical circuit.

**Common technical data**
- Accuracy: Class 1.5.
- Compliance with standard IEC 60051-1, IEC 61010-1 and IEC 61000-4.
- Ferromagnetic device.
- Scale length: 62 mm over 90°.
- Mounting in enclosure or in cubicle.
- Degree of protection: IP52.
- Maximum operating position: 30° / vertical.
- Temperature:
  - operation: -25 °C to 50 °C.
  - reference: 23 °C.
- Influence of temperature on accuracy: ±0.003 %/ °C.
- Utilisation frequency: 50 Hz to 60 Hz.

**AMP specific technical data**
- Needs a In/5 CT to be ordered separately.
- Interchangeable dials to be ordered separately.
- Consumption: 1.1 VA.
- Permanent overload: 1.2 In.
- Maximum overload for 5 s: 10 In.

**VLT specific technical data**
- Consumption: 3 VA.
- Permanent overload: 1.2 Un.
- Maximum overload for 5 s: 2 Un.

**Commercial reference numbers**

<table>
<thead>
<tr>
<th>Type</th>
<th>Scale</th>
<th>Connection on CT</th>
<th>Comm. ref. no.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AMP for standard feeder</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic device (delivered without dial)</td>
<td>X/5</td>
<td></td>
<td>16004</td>
</tr>
<tr>
<td>1.3 In dial</td>
<td>0-50 A</td>
<td>50/5</td>
<td>16009</td>
</tr>
<tr>
<td></td>
<td>0-100 A</td>
<td>100/5</td>
<td>16010</td>
</tr>
<tr>
<td></td>
<td>0-200 A</td>
<td>200/5</td>
<td>16011</td>
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<tr>
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<td>0-400 A</td>
<td>400/5</td>
<td>16012</td>
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<td>0-600 A</td>
<td>600/5</td>
<td>16013</td>
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<td>0-1000 A</td>
<td>1000/5</td>
<td>16014</td>
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<td>0-1250 A</td>
<td>1250/5</td>
<td>16015</td>
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<td></td>
<td>0-1800 A</td>
<td>1500/5</td>
<td>16016</td>
</tr>
<tr>
<td></td>
<td>0-2000 A</td>
<td>2000/5</td>
<td>16019</td>
</tr>
<tr>
<td><strong>AMP for motor feeder</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic device (delivered without dial)</td>
<td>X/5</td>
<td></td>
<td>16003</td>
</tr>
<tr>
<td>3 In dial</td>
<td>0-30-90 A</td>
<td>30/5</td>
<td>16006</td>
</tr>
<tr>
<td></td>
<td>0-75-225 A</td>
<td>75/5</td>
<td>16007</td>
</tr>
<tr>
<td></td>
<td>0-200-600 A</td>
<td>200/5</td>
<td>16008</td>
</tr>
<tr>
<td><strong>VLT</strong></td>
<td>0-500 V</td>
<td></td>
<td>16005</td>
</tr>
</tbody>
</table>

See your Schneider Electric representative for complete ordering information.
**Function**
The 96 x 96 measurement devices are designed for flush-mounted installation on doors, wicket doors and front plates of enclosures and cubicles.

**AMP**
The ammeters measure in amps the current flowing through an electrical circuit.

**VLT**
The voltmeter measure in volts the potential difference (voltage) of an electrical circuit.

**Common technical data**
- Accuracy: class 1.5.
- Compliance with standard IEC 60051-1, IEC 61010-1 and IEC 61000-4.
- Ferromagnetic device.
- Scale length: 80 mm over 90°.
- Mounting in enclosure or in cubicle.
- Degree of protection: IP52.
- Maximum operating position: 30° / vertical.
- Temperature:
  - operation: -25 °C to 50 °C.
  - reference: 23 °C.
- Influence of temperature on accuracy: ±0.003 % / °C.
- Utilisation frequency: 50 Hz to 60 Hz.

**AMP specific technical data**
- Needs a In/5 CT to be ordered separately.
- Interchangeable dials to be ordered separately.
- Consumption: 1.1 VA.
- Permanent overload: 1.2 In.
- Maximum overload for 5S: 10 In.

**VLT specific technical data**
- Consumption: 3 VA.
- Permanent overload: 1.2 Un.
- Maximum overload for 5S: 2 Un.

**Commercial reference numbers**

<table>
<thead>
<tr>
<th>Type</th>
<th>Scale</th>
<th>Connection on CT</th>
<th>Comm. ref. no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMP for standard feeder</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic device (delivered without dial)</td>
<td>X/5</td>
<td></td>
<td>16074</td>
</tr>
<tr>
<td>1.3 In dial</td>
<td>0-50 A</td>
<td>50/5</td>
<td>16079</td>
</tr>
<tr>
<td></td>
<td>0-100 A</td>
<td>100/5</td>
<td>16080</td>
</tr>
<tr>
<td></td>
<td>0-200 A</td>
<td>200/5</td>
<td>16081</td>
</tr>
<tr>
<td></td>
<td>0-400 A</td>
<td>400/5</td>
<td>16082</td>
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<tr>
<td></td>
<td>0-600 A</td>
<td>600/5</td>
<td>16083</td>
</tr>
<tr>
<td></td>
<td>0-1000 A</td>
<td>1000/5</td>
<td>16084</td>
</tr>
<tr>
<td></td>
<td>0-1250 A</td>
<td>1250/5</td>
<td>16085</td>
</tr>
<tr>
<td></td>
<td>0-1500 A</td>
<td>1500/5</td>
<td>16086</td>
</tr>
<tr>
<td></td>
<td>0-2000 A</td>
<td>2000/5</td>
<td>16087</td>
</tr>
<tr>
<td></td>
<td>0-2500 A</td>
<td>2500/5</td>
<td>16088</td>
</tr>
<tr>
<td></td>
<td>0-3000 A</td>
<td>3000/5</td>
<td>16089</td>
</tr>
<tr>
<td></td>
<td>0-4000 A</td>
<td>4000/5</td>
<td>16090</td>
</tr>
<tr>
<td></td>
<td>0-5000 A</td>
<td>5000/5</td>
<td>16091</td>
</tr>
<tr>
<td></td>
<td>0-6000 A</td>
<td>6000/5</td>
<td>16092</td>
</tr>
<tr>
<td>AMP for motor feeder</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic device (delivered without dial)</td>
<td>X/5</td>
<td></td>
<td>16073</td>
</tr>
<tr>
<td>3 In dial</td>
<td>0-30-90 A</td>
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<td>16076</td>
</tr>
<tr>
<td></td>
<td>0-75-225 A</td>
<td>75/5</td>
<td>16077</td>
</tr>
<tr>
<td></td>
<td>0-200-600 A</td>
<td>200/5</td>
<td>16078</td>
</tr>
<tr>
<td>VLT</td>
<td>0-500 V</td>
<td></td>
<td>16075</td>
</tr>
</tbody>
</table>

See your Schneider Electric representative for complete ordering information.
**Function**

The 48 x 48 selector switches are designed for flush-mounted installation on doors, wicket doors and front plates of enclosures and cubicles.

**CMA**
The ammeter selector switch uses a single ammeter (by means of current transformers) for successive measurement of the currents of a three-phase circuit.

**CMV**
The voltmeter selector switch uses a single voltmeter for successive measurement of the voltages (phase-to-phase and phase-to-neutral) of a three-phase circuit.

**Common technical data**

- **Durability:**
  - electrical: 100,000 operations.
  - mechanical: 2,000,000 operations.
- **AgNi contact.**
- **Operating temperature:** -25 °C to 50 °C.
- **Compliance with standards IEC/EN 60947-3.**
- **Degree of protection:**
  - IP65 on front face.
  - IP20 at terminal level.

**Commercial reference numbers**

<table>
<thead>
<tr>
<th>Type</th>
<th>Rating (A)</th>
<th>Voltage (V)</th>
<th>Number of positions</th>
<th>Comm. ref. no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMA</td>
<td>20</td>
<td>16017</td>
<td>16017</td>
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</tr>
<tr>
<td>CMV</td>
<td>500</td>
<td>16018</td>
<td>16018</td>
<td></td>
</tr>
</tbody>
</table>

See your Schneider Electric representative for complete ordering information.

**Connection**

Reading 3 phase-to-earth voltages + 3 phase-to-phase voltages.

*Note: when connecting do not remove the pre-cabling.*

See appropriate Installation Guide for this product.
**Function**

**iCMA**
This 4-position ammeter selector switch uses a single ammeter (using current transformers) for successive measurement of the currents of a three-phase circuit.

**iCMV**
This 7-position voltmeter selector switch uses a single voltmeter for successive measurement of voltages (phase-to-phase and phase-to-neutral) of a three-phase circuit.

**Common technical data**
- Rotary handle.
- Maximum operating voltage: 440 V, 50/60 Hz.
- Nominal thermal current: 10 A.
- Operating temperature: -20 °C to 55 °C.
- Storage temperature: -25°C to 80°C.
- Mechanical durability (AC21A-3 x 440 V): 2,000,000 operations.
- Degree of protection:
  - IP66 on front face.
  - IP20 at terminal level.
- Electrical durability: 1,000,000 operations.
- Connection: jumper terminals with captive screws, for cables up to 1.5 mm².

**Commercial reference numbers**

<table>
<thead>
<tr>
<th>Type</th>
<th>Rating (A)</th>
<th>Voltage (V AC)</th>
<th>Width in mod. of 9 mm</th>
<th>Comm. ref. no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>iCMA</td>
<td>10</td>
<td>415</td>
<td>4</td>
<td>15126</td>
</tr>
<tr>
<td>iCMV</td>
<td>10</td>
<td>415</td>
<td>4</td>
<td>15125</td>
</tr>
</tbody>
</table>

See your Schneider Electric representative for complete ordering information.

**Connection**

See appropriate Installation Guide for this
Function
Electromechanical counter that counts the operating hours of a machine or piece of electrical equipment. Giving a precise indication of operating time, the counter is used to decide when to carry out preventive maintenance.

Common technical data
- Electromechanical display.
- Maximum display: 99999.99 hours.
- Display accuracy: 0.01 %.
- Without reset.
- Storage temperature: -25 °C to 85 °C.
- Connection: tunnel terminals for 2.5 mm² cable.

Specific technical data
ICH "DIN"
- Consumption: 0.15 VA.
- Operating temperature: -10 °C to 70 °C.
- Mounting on DIN rail.

CH "48 x 48"
- Consumption:
  - 15607: 0.25 VA
  - 15608: 0.15 VA
  - 15609: 0.02 VA to 12 V and 0.3 VA to 36 V.
- Operating temperature: -20 °C to 70 °C.
- Degree of protection: IP65 on front face.
- Mounting on front face of monitoring switchboards.

Commercial reference numbers

<table>
<thead>
<tr>
<th>Type</th>
<th>Voltage (V)</th>
<th>Width in mod. of 9 mm</th>
<th>Comm. ref. no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>iCH &quot;DIN&quot;</td>
<td>230 V AC ± 10 %/50 Hz</td>
<td>4</td>
<td>15440</td>
</tr>
<tr>
<td>CH &quot;48 x 48&quot;</td>
<td>24 V AC ± 10 %/50 Hz</td>
<td></td>
<td>15607</td>
</tr>
<tr>
<td></td>
<td>230 V AC ± 10 %/50 Hz</td>
<td></td>
<td>15608</td>
</tr>
<tr>
<td></td>
<td>12 to 36 V DC</td>
<td></td>
<td>15609</td>
</tr>
</tbody>
</table>

See your Schneider Electric representative for complete ordering information.

Connection
ICH "DIN".
CH "48 x 48".

See appropriate Installation Guide for this...
**Function**
Electromechanical counter designed to count impulses emitted by: kilowatt-hour meters, temperature overrun detectors, people meters, speed meters, etc.

**Common technical data**
- Supply and metering voltage: 230 V AC ± 10 %, 50/60 Hz.
- Consumption: 0.15 VA.
- Maximum display: 9 999 999 impulses.
- Without reset.
- Metering data:
  - Minimum impulse time: 50 ms
  - Minimum time between 2 impulses: 50 ms.
- Storage temperature: -25 °C to 85 °C.
- Operating temperature: -10 °C to 70 °C.
- Connection: tunnel terminals for 2.5 mm² cable.

**Commercial reference numbers**

<table>
<thead>
<tr>
<th>Type</th>
<th>Width in mod. of 9 mm</th>
<th>Comm. ref. no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>iCI</td>
<td>4</td>
<td>15443</td>
</tr>
</tbody>
</table>

**Connection**

See appropriate Installation Guide for this.
Analog ammeters and voltmeters iAMP, iVLT

Digital ammeters, voltmeter and frequency meter iAMP, iVLT

iCMA and iCMV selector switches

72 x 72 analog ammeters and voltmeter

96 x 96 analog ammeters and voltmeter

See the appropriate Installation Guide for this product.
48 x 48 CMA and CMV selector switches

![Diagram of 48 x 48 CMA and CMV selector switches]

- 48 x 48 CMA and CMV selector switches
- With adapter: 22.3 (or 30.5) mm
- Dimensions: 57 x 12 mm

iCi impulse counter and iCH hour counter

![Diagram of iCi impulse counter and iCH hour counter]

- Dimensions: 36 x 59 mm
- 24.1 (or 33) mm

48 x 48 CH hour counters

![Diagram of 48 x 48 CH hour counters]

- Dimensions: 48 x 44 mm
- 22.3 (or 30.5) mm

See the appropriate Installation Guide for this product.