**DIRIS A-10**

Multifunction meters - PMD

**The solution for**
- Industry
- Infrastructures
- Tertiary

**Strong points**
- Easy to use
- Integrated temperature sensor
- Detects wiring errors
- Compliant with IEC 61557-12

**Conformity to standards**
- IEC 61557-12
- IEC 62053-22 class 0.5S
- IEC 62053-23 class 2
- UL

**Function**
The **DIRIS A-10** is a modular multifunction meter for measuring electrical values in low voltage networks. It allows all electrical parameters to be displayed and utilised for communication and/or output functions.

**Advantages**

**Easy to use**
Five direct access pushbuttons enable all measurements to be clearly viewed on its backlit LCD display.

**Integrated temperature sensor**
It allows variations in temperature to be detected.

**Detects wiring errors**
An integrated test function can be utilised to detect incorrect wiring and to automatically correct CT installation errors.

**Compliant with IEC 61557-12**
IEC 61557-12 is a high-level standard for all PMDs (Performance Monitoring Devices) that are designed to measure and monitor electrical parameters in distribution networks. Compliance with IEC 61557-12 ensures a high level of equipment performance, in terms of metrology, and the mechanical and environmental aspects (EMC, temperature, etc.).

**Functions**

**Multi-measurement**
- Currents
  - instantaneous: I1, I2, I3, In
  - maximum average: I1, I2, I3, In
- Voltages & frequency
  - instantaneous: V1, V2, V3, U12, U23, U31, F
- Power
  - instantaneous: 3P, 3Q, 3S, 3S
  - maximum average: 3P, 3Q, 3S
- Power factors
  - instantaneous: 3PF, 3QF
- Metering
  - Active energy: +/- kWh
  - Reactive energy: +/- kVArh
  - Hours
- Harmonic analysis
  - Total harmonic distortion (level 51)
    - Currents: thd I1, thd I2, thd I3
    - Phase-to-neutral voltage: thd V1, thd V2, thd V3
    - Phase-to-phase voltage: thd U12, thd U23, thd U31
- Dual tariff function
  - Selection of one out of 2 billing tariffs

**Events**
- Alarms on all electrical values
- Communications®
  - RS485 with MODBUS protocol
- Input
  - Tariff selection
  - Remote device status
- Output
  - Remote command of device
  - Alarm report
  - Pulse report

(1) Available on specific version (see the following pages)

**Electrical characteristics**

**Measurement updating period**: 1 s

**Accuracy**
- Power measurement: 0.2%
- Harmonic analysis: 0.2%
- Power factor measurement: 0.1%
- Frequency measurement: 0.5%

**Input consumption**
- ≤ 0.1 VA
- ≤ 0.6 VA

**Input (tariff)**
- Type 0 VAC: T1 / 200-277 VAC: T2
- Number 1

**Output**
- Digital output (pulses or on/off)
- Consumption < 3 VA

**Alarms**
- AC tolerance ± 15 %
- Alternating voltage: 110 … 277 VAC
- Auxiliary power supply
  - Type 2 … 3 half duplex wires
  - Link RS485
  - MODBUS® speed 2400 … 38400 bauds
  - Protocol MODBUS RTU

**Input**
- ≤ 10 Number 1
- Active (according to IEC 62053-22) Class 0.5 S
- Reactive (according to IEC 62053-23) Class 2
- Voltage measurements (TRMS)
  - Direct measurement between phase and neutral: 28 … 289 VAC
  - Direct measurement between phases: 50 … 500 VAC

**Input consumption**
- ≤ 7.5 VA
- ≤ 9 VA

**Input supply**
- ≤ 20 VA

**Number of modules**: 4

**Dimensions**
- W x H x D: 72 x 90 x 64 mm

**Weight**
- 205 g (4825 0010) - 215 g (4825 0011)
- Multi module: 805 g

**Storage temperature**
- -20 … + 70 °C

**Type**
- Modular

**Case degree of protection**: IP 30

**Front degree of protection**: IP 52

**Connection cross-section for AUX**
- 4 mm²

**Connection cross-section for MODBUS®**
- 2.5 mm²

**Supply, input, output and comms.**
- 2.5 mm²

**Temperature**
- Direct access key for voltages, frequency and voltage THD.
- 5. Direct access key for energies.
- 6. Pushbutton for hour meter, temperature and programming menu access.
- 4. Direct access key for active, reactive and apparent power (instantaneous and max. values) and
- 3. Direct access key for currents (instant and maximum), current THD and test function.
- 2. Direct access key for currents (instant and maximum), current THD and test function.
- 1. Backlit LCD display.
Single-circuit metering, measurement & analysis environmental aspects (EMC, temperature, etc.) terms of metrology, and the mechanical and a high level of equipment performance, in Compliance with IEC 61557-12 ensures electrical parameters in distribution networks. That are designed to measure and monitor all PMDs (Performance Monitoring Devices) Compliant with IEC 61557-12 correct CT installation errors. An integrated test function can be utilised to Detects wiring errors. It allows variations in temperature to be Integrated temperature sensor backlit LCD display. It allows all electrical parameters to be measured to be clearly viewed on its display and utilised for communication and/ Five direct access pushbuttons enable all output functions. Easy to use.

Advantages

- Power
- Voltages & frequency
- Harmonic analysis
- Harmonic distortion (level 51)
- Total harmonic distortion (level 51)
- Active energy: +/- kWh
- Reactive energy: +/- kVarh
- Phase-to-phase voltage: thd U12, thd U23, thd U31
- Phase-to-neutral voltage: thd V1, thd V2, thd V3
- Power measurement
- Direct measurement between phases 50 ... 500 VAC
- Direct measurement between phase and neutral 28 ... 289 VAC
- Input consumption ≤ 0.1 VA
- Measurement updating period 1 s
- Accuracy 0.5 %
- Power factor measurement
- Measurement updating period 1 s
- Accuracy 0.5 %
- Frequency measurement
- Measurement range 45 ... 65 Hz
- Measurement updating period 1 s
- Accuracy 0.1 %

DIRIS A-10 is a modular multifunction meter for measuring electrical values in low voltage networks. The DIRIS A-10 is a modular multifunction meter - instantaneous: 3PF, ΣP, 3Q, ΣQ, 3S, S, ΣP, ΣQ, ΣS, 3S, S

- Hours:
- Reactive energy: +/- kVarh
- Active energy: +/- kWh
- Alternating voltage 110 ... 277 VAC
- Frequency 50 / 60 Hz
- AC tolerance ± 15 %
- Alternating current 110 ... 277 VAC
- AC tolerance ± 15 %
- Input consumption 0.6 VA
- Measurement updating period 1 s
- Permanent overload 6 A
- Intermittent overload 10 I, for 1 s
- Frequency measurement
- Measurement updating period 1 s
- Accuracy 0.5 %
- Power measurement
- Direct measurement between phases 50 ... 500 VAC
- Direct measurement between phase and neutral 28 ... 289 VAC
- Input consumption ≤ 0.1 VA
- Measurement updating period 1 s
- Accuracy 0.5 %
- Power factor measurement
- Measurement updating period 1 s
- Accuracy 0.5 %
- Frequency measurement
- Measurement range 45 ... 65 Hz
- Measurement updating period 1 s
- Accuracy 0.1 %

Energy efficiency software

- DIRECT the solution for class 2
- DIRECT the solution for class 0.5S

Strong points

- Easy to use
- Alert on all electrical values
- Remote device status
- Remote command of device
- Tariff selection
- Input, Output functions.
- Input consumption 0.6 VA
- Measurement updating period 1 s
- Permanent overload 6 A
- Intermittent overload 10 I, for 1 s
- Frequency measurement
- Measurement updating period 1 s
- Accuracy 0.5 %
- Power measurement
- Direct measurement between phases 50 ... 500 VAC
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- Input consumption ≤ 0.1 VA
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- Measurement updating period 1 s
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- Frequency measurement
- Measurement range 45 ... 65 Hz
- Measurement updating period 1 s
- Accuracy 0.1 %
**DIRIS A-10**
**Multifunction meters - PMD**
**modular multifunction meter**

**Connection**

**Recommendation:**
- For IT earthing systems, it is recommended that the CT secondary is not connected to earth.
- When disconnecting the DIRIS, the secondary of each current transformer must be short-circuited. This operation can be carried out automatically by a SOCOMEC PTI, an accessory which is included in this catalogue. Please consult us.
- It is recommended that the earthing point for the DIRIS A-10 and the current transformer secondaries are not earthed at the same time.

**Low voltage balanced network**
3/4 wires with 1 CT

**Single-phase**

**Two-phase**

**Low voltage unbalanced network**
3/4 wires with 3 CTs

**3 wires with 2 CTs**

**Additional information**

**Communication via RS485 link**

**AC auxiliary power supply**
**Terminals**

<table>
<thead>
<tr>
<th>12</th>
<th>14</th>
<th>16</th>
<th>2</th>
<th>20</th>
<th>22</th>
<th>1</th>
<th>3</th>
<th>5</th>
<th>7</th>
<th>9</th>
<th>11</th>
<th>18</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>V2</td>
<td>V3</td>
<td>VN</td>
<td>A</td>
<td>U</td>
<td>X</td>
<td>S1</td>
<td>S2</td>
<td>S1</td>
<td>S2</td>
<td>S1</td>
<td>S2</td>
</tr>
</tbody>
</table>

**Communication terminals**

**Pulse or alarm output terminals**

**Input terminals**

**References**

<table>
<thead>
<tr>
<th>Basic device</th>
<th>Description</th>
<th>DIRIS A-10 Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIRIS A-10 (available in light grey on request)</td>
<td></td>
<td>4825 0400</td>
</tr>
<tr>
<td>DIRIS A-10 with RS485 MODBUS communication (available in light grey on request)</td>
<td></td>
<td>4825 0401</td>
</tr>
<tr>
<td>Fuse disconnect switches for the protection of voltage inputs (type RM) 3 poles</td>
<td>To be ordered in multiples of</td>
<td>4</td>
</tr>
<tr>
<td>Fuse disconnect switches for the protection of the auxiliary supply (type RM) 1 pole + neutral</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Fuses type gG 10x38 0.5 A</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Current transformer range</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Management software for DIRIS</td>
<td></td>
<td></td>
</tr>
</tbody>
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**Expert Services**

- Study, definition, advice, implementation, maintenance and training...
  Our experts “Expert Services” offer complete support for the success of your project.