**Function**

The DIRIS A10 is a multifunction meter for measuring electrical values in low voltage networks in modular format. It allows all electrical parameters to be displayed and the measurement, energy metering and communication functions to be used. In addition, the DIRIS A10 has a function for correcting errors in CT connections. It also allow variations in temperature to be detected thanks to its internal temperature measurement function.

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

**Applications**

Multiple measurement
- Current
  - instantaneous: I1, I2, I3, In
  - maximum: I1, I2, I3, In
- Voltages & frequency
  - instantaneous: U1, U2, U3, U12, U23, U31, F
- Power
  - instantaneous: ΣP, ΣQ, ΣS, ΣS
  - maximum: ΣP, ΣQ, ΣS
- Power factor
  - instantaneous: ΣPF, ΣPF

Metering
- Active energy: + kWh
- Reactive energy: + kvarh
- Hours: ☑

Total harmonic distortion
- Harmonic analysis (level 51)
  - Currents: thd I1, thd I2, thd I3
  - Phase-to-neutral voltage: thd U1, thd U2, thd U3
  - Phase to phase voltage: thd U12, thd U23, thd U31

Events
- Alarms on all electrical values

Communications
- RS485 (JBUS/MODBUS) digital

Output
- Control of devices
- Alarm report
- Pulse report

(1) Available as an option (see the following pages).
**Multifunction meter**

**DIRIS A10**

### Case

- **Type**: Modular
- **Number of modules**: 4
- **Dimensions W x H x D**: 72 x 90 x 64 mm
- **Case protection rating**: 30
- **Front protection rating**: 52
- **Display type**: LCD
- **Voltage and current correction**: 4 mm²
- **Others correction**: 2.5 mm²
- **Weight**: 205 g (4825 0210) - 215 g (4825 0211)

### Electrical Characteristics

**Current measurement on insulated inputs (TRMS)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT primary</td>
<td>9,999 A</td>
</tr>
<tr>
<td>CT secondary</td>
<td>5 A</td>
</tr>
<tr>
<td>Measurement range</td>
<td>0 ... 11 kA</td>
</tr>
<tr>
<td>Input consumption</td>
<td>≤0.1 mA</td>
</tr>
<tr>
<td>Measurement updating period</td>
<td>1 s</td>
</tr>
<tr>
<td>Accuracy</td>
<td>±0.2 %</td>
</tr>
<tr>
<td>Sustained overload</td>
<td>6 A</td>
</tr>
<tr>
<td>Intermittent overload</td>
<td>10 A for 1 s</td>
</tr>
</tbody>
</table>

**Voltage measurements (TRMS)**

- 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: ±0.2%
- Sustained overload: 800 VAC

**Power measurement**

- Measurement updating period: 1 s
- Accuracy: ±0.5%

**Power factor measurement**

- Measurement updating period: 1 s
- Accuracy: ±0.5%

**Frequency measurement**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement range</td>
<td>45 ... 65 Hz</td>
</tr>
<tr>
<td>Measurement updating period</td>
<td>1 s</td>
</tr>
<tr>
<td>Accuracy</td>
<td>±0.1 %</td>
</tr>
</tbody>
</table>

**Energy accuracy**

- Active (according to IEC 62053-22): class 0.5 S
- Reactive (according to IEC 62053-23): class 2

**Auxiliary supply**

- AC voltage: 200 ... 277 VAC
- AC tolerance: ±15%
- Frequency: 50 / 60 Hz
- Consumption: < 3 VA

**Outputs (Pulse)**

- Number: 1
- Type: 100 VDC - 0.5 A - 10 VA
- Max. number of operations: ≤ 10⁸

**Communication**

- Link: RS485
- Type: 2 ... 3 half duplex wires
- Protocol: JBUS/M0DDBUS™ in RTU mode
- JBUS/M0DDBUS™ speed: 1400 ... 38400 bauds

**Operating conditions**

- Operating temperature: -10 ... +55°C
- Storage temperature: -20 ... +70°C
- Relative humidity: 85%

### Front panel

1. Backlit LCD display.
2. Direct access key for currents (instantaneous and max. values), current THD and set up wiring correction.
3. Direct access key for voltages, frequency and voltage THD.
4. Direct access key for active, reactive and apparent power (instantaneous and max. values) and power factor.
5. Direct access key for energies and hour meter.
6. Pushbutton for currents, temperatures and CT setup wiring correction.
7. Flashing led consumption.
**Connection**

**Low voltage balanced network**

**Recommendation:**
- For IT earthing systems, it is recommended that the CT secondaries are not connected to the earth.
- While disconnecting the DIRIS, the secondaries of each current transformer must be short-circuited. This operation can be carried out automatically from a product in the SOCOMEC catalogue, PTI: Please consult us.
- It is recommended that the earthing point for the DIRIS A10 and the current transformer secondaries must not earthed at the same time.

**Connection - Low voltage unbalanced network**

- 3/4 wires with 1 CT
- 3 wires with 2 CTs
- 3 wires with 3 CTs

**Other information**

- Communication via RS485 link
- AC & DC auxiliary power supply

It is recommended that the auxiliary power supply be protected by the use of 300 mA gG fuses.
Multifunction meter

DIRIS A10

References

<table>
<thead>
<tr>
<th>Description</th>
<th>DIRIS A10 Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIRIS A10</td>
<td>4825 0010</td>
</tr>
<tr>
<td>DIRIS A10 with RS485 JBUS/MODBUS communication</td>
<td>4825 0011</td>
</tr>
</tbody>
</table>

Terminals

S1 - S2: current inputs.
AUX: auxiliary power supply U,
V1, V2, V3 & VN: voltage inputs.

Communication module

Output or alarm module

Input module