EIB Delta-Meter
Electricity meters

General Description
The EIB Delta-Meters are a new generation of certified, digital electronic electricity meters with integrated ABB i-bus® EIB communication interface for the measurement of electrical energy consumption.
The EIB Delta-Meters are compact, highly reliable with substantial immunity to EM disturbances and are suitable for use in single and polyphase voltage networks. The meters have no mechanical moving parts and thus can be easily mounted in any orientation onto DIN rails according to EN 50022 or panel mounted using the panel mounting kit.
The EIB-communication interface allows remote reading of the meter data over ABB i-bus® EIB for billing, energy optimisation, visualisation or installation monitoring purposes. The EIB Delta-Meter can be universally employed for sub-metering applications in industrial installations, commercial buildings, office complexes, leisure facilities or private housing.

Special Features
- Precise measurement of energy consumption (kWh, also kvarh with Combi-meters)
- For 2, 3 and 4 wire voltage networks with symmetric or asymmetric loading (50/60 Hz)
- Integrated EIB-bus communication interface for remote reading of meter data
- Network monitoring function: registration and display of up to 24 electrical measurement values
- Automatic control of the meter installation with „Installation Self-test“
- PTB-approved

- Easy to read LCD-Display, LED-Display for energy consumption
- Direct connection up to 65 A (Measurement range 0,05 A to 65 A)
- Transformer connection (/1A and /5A secondary) with transformer meter, also for I_n > 65 A
- Accuracy class 1 or 2
- Tariff meters with 4 tariffs
- Meters fulfil standards IEC 1036/1268
- System pro M Design with sealable housing for snap fixing on 35 mm DIN rails

Dimensions (in mm)

Panel mounting kit
EIB Delta-Meter
Electricity meters

Technical Data

Accuracy:
- Active energy meters: Class 1 and 2 according to IEC1036
- Reactive energy meters: Class 2 according to IEC1268

Voltage:
- Voltage (−20% ... +15%): see selection table

Rated current $I_r$ (maximum current $I_{max}$):
- Transformer rated meters: $(1/1$ A or $5/5$ A secondary) $1(6)$ A for class 1, $2(6)$ A for class 2
- Direct connected meters: $5(65)$ A for class 1 and 2

Starting current:
- Transformer rated meters: $(1/1$ A or $5/5$ A secondary) $< 2$ mA for class 1, $< 4$ mA for class 2
- Direct connected meters: $< 25$ mA

Power consumption:
- Voltage path: $< 2$ VA, 1.5 W per phase
- Current path: $< 0.01$ VA at $I_b$ transformer = 2 A and at $I_b$ Direct = 5 A

Frequency:
- Rated (Range): 50 Hz (45 Hz ... 65 Hz)

Electromagnetic compatibility (EMC):
- Surge voltage: 6 kV, 1,2/50 µs (IEC 255-4)
- Burst: 4 kV, 5,5/50 ns (IEC 801-4)
- Radio frequency immunity: 10 V/m, 150 kHz – 1 GHz (IEC 1000-4-3)
- Electrostatic discharge: 15 kV (IEC 801-2)

Circuit protection:
- Transformer rated meters: max. 6 A gl
- Direct connected meters: max. 65 A gl (63 A)

Environmental conditions:
- Operating temperature range: −5 °C ... +45 °C

Mechanical data:
- Dimensions (H x B x T): 100 x 122.5 x 64.8 mm
- Protection class: II
- Cable cross section: – Transformer rated meters max. 10 mm²
  – Direct connected meters max. 25 mm²

Display:
- LCD-display: 7 digits, height 7 mm
- LED-display: – Direct connected meters red LED, 1000 Imp/kWh (kvarh)
  – Transformer rated meters red LED, 5000 Imp/kWh (kvarh)

EIB-connection:
- Current supply: via ABB i-bus® EIB
- EMV: – Impulse voltage 6 kV, 1,2/50 µs (IEC 255-4)
  4 kV, 5,5/50 ns (IEC 801-4)
- Operating and display elements: – ABB i-bus® EIB Bus connection terminal (included)
  for programming the physical address

Standards:
- Meter IEC 1036, IEC 1268, PTB-number 20.15.98.80

Connection Diagrams

Single phase

Direct connected meters

Transformer rated meters

3-phase without neutral

Transformer rated meters

3-phase with neutral

DZ 2200

DZ 3100, DZ 3400, DZ 3500

DZ 3110, DZ 3410, DZ 3510

DZ 4010/1
EIB Delta-Meter
Electricity meters

EIB Delta-Meter Program with network monitoring function

### Transformer rated meters for /1 A or /5 A current transformer

**Active energy meters**

<table>
<thead>
<tr>
<th>Voltage (V)</th>
<th>Current (A)</th>
<th>Class</th>
<th>Ordering Info.</th>
<th>bbn Code</th>
<th>Price 1 P. (€)</th>
<th>Price group</th>
<th>Weight (kg)</th>
<th>Pack.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 x 230</td>
<td>2(6)</td>
<td>2</td>
<td>DZ 2210 W E</td>
<td>GH V782 2100 R0100</td>
<td>51128 5</td>
<td>26</td>
<td>0.6</td>
<td>1</td>
</tr>
<tr>
<td>3 x 110</td>
<td>2(6)</td>
<td>2</td>
<td>DZ 3110 W E</td>
<td>GH V783 1100 R0100</td>
<td>51129 2</td>
<td>26</td>
<td>0.6</td>
<td>1</td>
</tr>
<tr>
<td>3 x 400</td>
<td>2(6)</td>
<td>2</td>
<td>DZ 3410 W E</td>
<td>GH V783 4100 R0100</td>
<td>51130 8</td>
<td>26</td>
<td>0.6</td>
<td>1</td>
</tr>
<tr>
<td>3 x 500</td>
<td>2(6)</td>
<td>2</td>
<td>DZ 3510 W E</td>
<td>GH V783 5100 R0100</td>
<td>51131 5</td>
<td>26</td>
<td>0.6</td>
<td>1</td>
</tr>
<tr>
<td>3 x 230/400</td>
<td>1(6)</td>
<td>1</td>
<td>DZ 4011 W E</td>
<td>GH V784 0101 R0100</td>
<td>51132 2</td>
<td>26</td>
<td>0.6</td>
<td>1</td>
</tr>
<tr>
<td>3 x 230/400</td>
<td>2(6)</td>
<td>2</td>
<td>DZ 4010 W E</td>
<td>GH V784 0100 R0100</td>
<td>51133 9</td>
<td>26</td>
<td>0.6</td>
<td>1</td>
</tr>
</tbody>
</table>

**Combi meters (active and reactive energy)**

<table>
<thead>
<tr>
<th>Voltage (V)</th>
<th>Current (A)</th>
<th>Class</th>
<th>Ordering Info.</th>
<th>bbn Code</th>
<th>Price 1 P. (€)</th>
<th>Price group</th>
<th>Weight (kg)</th>
<th>Pack.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 x 230/400</td>
<td>2(6)</td>
<td>2</td>
<td>DZ 4010 K E</td>
<td>GH V784 0100 R2100</td>
<td>51134 6</td>
<td>26</td>
<td>0.6</td>
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</table>

**Tariff meter (4 Tariffs)**

<table>
<thead>
<tr>
<th>Voltage (V)</th>
<th>Current (A)</th>
<th>Class</th>
<th>Ordering Info.</th>
<th>bbn Code</th>
<th>Price 1 P. (€)</th>
<th>Price group</th>
<th>Weight (kg)</th>
<th>Pack.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 x 230/400</td>
<td>2(6)</td>
<td>2</td>
<td>DZ 4010 WT E</td>
<td>GH V784 0100 R0140</td>
<td>51135 3</td>
<td>26</td>
<td>0.6</td>
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### Direct connected meters

**Active energy meters**

<table>
<thead>
<tr>
<th>Voltage (V)</th>
<th>Current (A)</th>
<th>Class</th>
<th>Ordering Info.</th>
<th>bbn Code</th>
<th>Price 1 P. (€)</th>
<th>Price group</th>
<th>Weight (kg)</th>
<th>Pack.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 x 230</td>
<td>5(65)</td>
<td>2</td>
<td>DZ 2200 W E</td>
<td>GH V782 2000 R0100</td>
<td>51143 8</td>
<td>26</td>
<td>0.6</td>
<td>1</td>
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<tr>
<td>3 x 400</td>
<td>5(65)</td>
<td>2</td>
<td>DZ 3400 W E</td>
<td>GH V783 4000 R0100</td>
<td>51144 5</td>
<td>26</td>
<td>0.6</td>
<td>1</td>
</tr>
<tr>
<td>3 x 230/400</td>
<td>5(65)</td>
<td>1</td>
<td>DZ 4001 W E</td>
<td>GH V784 0001 R0100</td>
<td>51145 2</td>
<td>26</td>
<td>0.6</td>
<td>1</td>
</tr>
<tr>
<td>3 x 230/400</td>
<td>5(65)</td>
<td>2</td>
<td>DZ 4000 W E</td>
<td>GH V784 0000 R0100</td>
<td>51146 9</td>
<td>26</td>
<td>0.6</td>
<td>1</td>
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**Combi meters (active and reactive energy)**

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<thead>
<tr>
<th>Voltage (V)</th>
<th>Current (A)</th>
<th>Class</th>
<th>Ordering Info.</th>
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<tbody>
<tr>
<td>3 x 230/400</td>
<td>5(65)</td>
<td>2</td>
<td>DZ 4000 K E</td>
<td>GH V784 0000 R2100</td>
<td>51147 6</td>
<td>26</td>
<td>0.6</td>
<td>1</td>
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</table>

**Tariff meter (4 Tariffs)**

<table>
<thead>
<tr>
<th>Voltage (V)</th>
<th>Current (A)</th>
<th>Class</th>
<th>Ordering Info.</th>
<th>bbn Code</th>
<th>Price 1 P. (€)</th>
<th>Price group</th>
<th>Weight (kg)</th>
<th>Pack.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 x 230/400</td>
<td>5(65)</td>
<td>2</td>
<td>DZ 4000 WT E</td>
<td>GH V784 0000 R0140</td>
<td>51148 3</td>
<td>26</td>
<td>0.6</td>
<td>1</td>
</tr>
</tbody>
</table>

### Accessories

**Description** | **Ordering Info.** | **bbn Code** | **Price 1 P. (€)** | **Price group** | **Weight (kg)** | **Pack.** |
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Flush-mount kit for Delta-Meter</td>
<td>DZ-FTB</td>
<td>GH V780 0000 R0000</td>
<td>48120 5</td>
<td>16</td>
<td>0.21</td>
<td>1</td>
</tr>
</tbody>
</table>

**Note:** Transformer rated EIB Delta-Meters do not have a programmable transformer ratio. Therefore all displayed and transmitted measurement values are secondary values. The EIB Delta-Meters do not possess an S0 impulse output.