**Installation Manual**

**DY DCF77**

**Reference Standards**

Compliance with Community Directives:

2014/53/EU (RED) is declared with reference to the following harmonized standards:

- EN 60950-1
- ETSI EN 301 489-1, ETSI EN 301 489-3, ETSI EN 300 330

**User Manual**

DCF MODULE FOR EXTERNAL USE

⚠️ Read all the instructions carefully

DY DCF77 is a module that allows you to capture the information of data and time. This information may be shared with ABB devices designed to interface with DY DCF77, so as to ensure a synchronization always perfect.

**Code** | **Model** | **Description**
--- | --- | ---
2CSM250411R1000 | DY DCF77 | DCF module for external use

**Safety Warnings**

During product installation and operation it is necessary to observe the following instructions:

1. The product must be installed by a qualified person, in strict compliance with the connection diagrams.
2. Do not power the instrument if any part of it is damaged.
3. The product must be installed and activated in compliance with current electric system standards.
4. The electrical system in the building in which the product is to be installed should have an over-current switch and a protection device.
5. Do not use the product for purposes different from the one specified.
6. In case of malfunction do not perform repairs and contact immediately the technical support.
7. The product can be used in environments with category of overvoltage III and pollution degree 2.
8. Before accessing the connection terminals, verify that the leads are not live.
9. After installation, inaccessibility to the connection terminals without appropriate tools must be guaranteed.

**Technical Characteristics**

- Power supply: 12 V DC (-20% ÷ +20%)
- Absorption: 4 mA
- DCF frequency: 77.5 kHz
- Wall or pole installation
- Wiring
  - Cable length: 100 m
  - Flexible cables section: 0.75 ÷ 1.5 mm²
  - Sheathed cables maximum diameter: 3 mm
- Protection degree: IP54
- Operating temperature: 0 ÷ +50 °C
- Storage temperature: -25 ÷ +70 °C
- Operating humidity: 20 ÷ 90% non condensing
- Key to force sending data to the connected devices
  - Red / green / orange led for signaling device status (Figure 1)

**Device Status**

- When you power on the led emits two RED flashes as follows:

  OFF  ON  OFF  ON  OFF  
  …  1 s  1 s  1 s  …

  After the power on sequence the DY DCF77 sends data and time to the I/O extension port (then to the connected devices) every 30 minutes.

  - The flashing of the GREEN led indicates the status of the device:

<table>
<thead>
<tr>
<th>Searching for valid signal</th>
<th>ON</th>
<th>OFF</th>
<th>REPETITIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>500 ms</td>
<td>500 ms</td>
<td>continuous</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Exact time acquired less than 30 minutes</th>
<th>ON</th>
<th>OFF</th>
<th>REPETITIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100 ms</td>
<td>100 ms</td>
<td>6 every 5 seconds</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Exact time acquired less than 48 hours</th>
<th>ON</th>
<th>OFF</th>
<th>REPETITIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100 ms</td>
<td>100 ms</td>
<td>3 every 5 seconds</td>
</tr>
</tbody>
</table>

- Sending data to the I/O extension port (and to the connected devices) is signaled by the RED flashing of the led for 3 seconds as follows:

  OFF  ON  OFF  ON  OFF  …
  100 ms 100 ms 100 ms 100 ms …

  Note: at any time you can force sending data to the I/O extension port by pressing the key (accessible by removing the cover, see figure 2).

**Installation**

- Installation can be wall or pole (by using the adapter in the package)
- Remove the cover by leveraging the teeth on the sides of the product
- Pass the cables through the cable entry on the bottom side and connect the power and bus cables respecting the wiring diagram
- Tighten the cable gland and replace the cover.

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