Basic technical concepts

Definitions

1 - **Switch module**: allows data to be entered in coded forms.

2 - **Crimp**: crimps the connector ends to form a bank or switch module and hold the bank in place in a panel.

3 - **Separator module**: allows the bank of switch modules to be combined into a single block.

4 - **Spacer**: non-working module which may have to be inserted in a bank of modules in certain applications.

5 - **Coded blank module**: allows two separate circuits to be switched simultaneously from a single actuator. It is actuated from the adjoining module via coupling shaft.

Mounting in panels

**Mounted from front**:  
84 210 - 211 - 212

By spring clips (supplied in pairs) which have to be fitted to end caps or separator modules.

84 214

By clips built into caps.

Colours of modules and wheels

Grey modules
Black wheels numbered in white.

**Lockout state**

These fix a range of numbers available for setting to, between two range-end numbers to be specified when ordering. If required, the range-fixing operation can be carried out by the user.

Switch output

**Standard model**: output on right

Connectors for 84 210 - 211 - 212

W2  Solder tags to printed circuit
X2  Wire-wrap tags
X3  Solder tags to printed circuit

Connecting modules (to form banks)

84 210 - 211 - 212

84 214
<table>
<thead>
<tr>
<th>Presentation</th>
<th>Type</th>
<th>Pitch (mm)</th>
<th>Overall Height (mm)</th>
<th>Digit dimensions (mm)</th>
<th>Method of setting</th>
<th>Mounted from front:</th>
<th>Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /></td>
<td>84 210</td>
<td>8</td>
<td>33</td>
<td>4.5 x 2.8</td>
<td>Stackwheel</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td><img src="image2.png" alt="Image" /></td>
<td>84 211</td>
<td>10</td>
<td>33</td>
<td>4.5 x 2.8</td>
<td>Rocker</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td><img src="image3.png" alt="Image" /></td>
<td>84 214</td>
<td>7.62</td>
<td>24</td>
<td>4 x 2.5</td>
<td>Rocker</td>
<td>•</td>
<td>•</td>
</tr>
</tbody>
</table>

Standard products
non stocked
**Thumbwheel switches**

**Electrical characteristics**
- Operating voltage: 0,1 → 50 V~
- Nominal load current: 0,1 → 100 mA
- Max. non-switchable current: 1 A
- Max. internal resistance: 120 mΩ
- Min. insulation resistance: 10^5 MΩ
- Between tracks: 600 V~
- Between tracks: 2500 V~

**Mechanical characteristics**
- Life (operations): 10^6
- Vibration resistance under NFC 20616: 2000/10

**Environmental characteristics**
- Operating temperature: -25 → 70°C
- Storage temperature: -40 → 85°C

**Standard code**

<table>
<thead>
<tr>
<th>MO1 Type of tracks</th>
<th>C</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>M01</td>
<td>1</td>
<td>11</td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MO2 Type of tracks</th>
<th>C</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>4</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>M01</td>
<td>1</td>
<td>11</td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>7</td>
</tr>
</tbody>
</table>

**Output layout**
- Position on printed circuit
- 5° tilt setting
- *For 84 214 only*

**Features**
- Miniature, starwheel

**Compatible with display module**
- Front mounting

**Types**
- Standard 10-position module: 84 210 0

**Standard codes**
- Decimal: M 01
- B.C.D.: M 02

**Circuits**
- Short: C

**Case**
- Wheels
- Grey G
- Black N

**Connections**
- For soldering or for connector: S

**Mounting accessories**
- Pair of end caps (with clips):
  - Grey: JE/G 79 211 709
  - Spacer: Grey: MI/G 79 211 738
  - Separator module (with clips):
    - Grey: MS/G 79 211 752

**Connectors**
- Solder terminals: W2 25 625 493

**Dimensions**

**Other information**
- Other version, codes, colors, case, wheels: please enquire.