

## Definitions

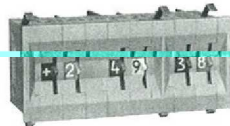
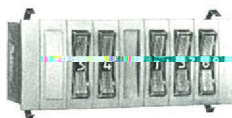
**1 - Switch module:** allows data to be entered in coded forms.

**2 - End caps:** form the end pieces of a bank of switch modules and hold the bank in place in a panel.

**3 - Separator module:** allows 2 banks 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 cases.

**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 :**

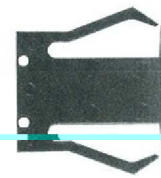
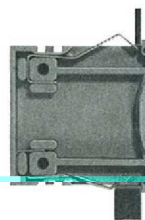
**84 210 211 212**

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

Clips can be fitted in either of two positions to suit thickness of panel.

**84 214**

By clips built into caps.



## Colours of modules and wheels

Grey modules

Black wheels numbered in white.

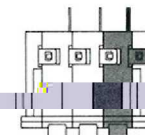
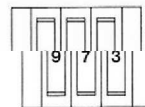
## Lockout stops

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

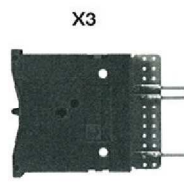
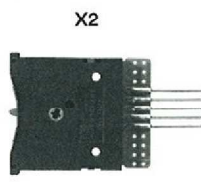
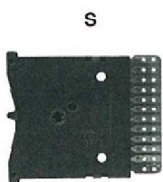


## Connections

**S** for soldering wires straight to switch or plugging connector onto switch

**X2** By wire-wrap tags

**X3** By solder tags to printed circuit



## Connectors for 84 210 - 211 - 212

**W2** Solder tags to printed circuit

**X2** Wire-wrap tags

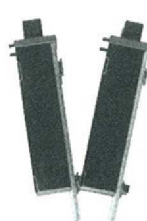
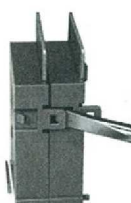
**X3** Solder tags to printed circuit



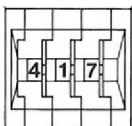
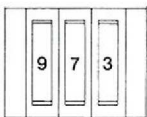
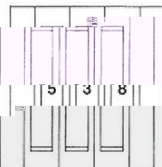
## Connecting modules (to form banks)

**84 210 - 211 - 212**

**84 214**

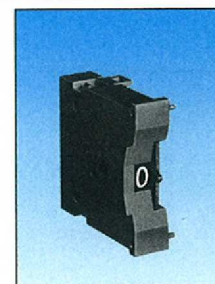


## Guide to selecting a thumbwheel switch

| Presentation                                                                        | Type   | Pitch (mm) | Overall height (mm) | Digit dimensions (mm) | Method of setting | Mounted from front | Codes   |     |                  |             |                |                           |                             |               |                              |                 |
|-------------------------------------------------------------------------------------|--------|------------|---------------------|-----------------------|-------------------|--------------------|---------|-----|------------------|-------------|----------------|---------------------------|-----------------------------|---------------|------------------------------|-----------------|
|                                                                                     |        |            |                     |                       |                   |                    | Decimal | BCD | BCD + complement | Change over | BCD complement | BCD excess 6 + complement | Special two pole plus/minus | Kelvin Valley | Hexadecimal BCD + complement | Hexadecimal BCD |
|    | 84 210 | 8          | 33                  | 4,5 x 2,8             | Starwheel         | •                  | •       | •   | •                | •           | •              | •                         | •                           | •             | •                            | •               |
|    | 84 211 | 10         | 33                  | 4,5 x 2,8             | Rocker            | •                  | •       | •   | •                | •           | •              | •                         | •                           | •             |                              |                 |
|   | 84 212 | 12,5       | 59                  | 6 x 3,75              | Rocker            | •                  | •       | •   | •                | •           | •              | •                         | •                           | •             |                              |                 |
|  | 84 214 | 7,62       | 24                  | 4 x 2,5               | Rocker            | •                  | •       | •   | •                | •           | •              |                           |                             |               |                              |                 |

Standard products  
non stocked

# Thumbwheel switches



## Electrical characteristics

|                             |                                                            |
|-----------------------------|------------------------------------------------------------|
| Operating voltage           | $U, I \rightarrow 50V \sim$<br>$0,1 \rightarrow 50 V_{DC}$ |
| Nominal load current        | $0,1 \rightarrow 100 mA$                                   |
| Max. non-switchable current | 1 A                                                        |
| Max. internal resistance    | 120 m $\Omega$                                             |
| Min. insulation resistance  | $10^5 M \Omega$                                            |
| - 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 codes

|                |      | M01 |    |    |   |   |   |   |   |   |   |   |
|----------------|------|-----|----|----|---|---|---|---|---|---|---|---|
| Type of tracks |      | C   | 0  | 1  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| A              | M01* | 1   | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 |
|                | M01  | 12  | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 |
| B              | 0    |     | ●  | ●  |   |   |   |   |   |   |   |   |
|                | 1    |     | ●  |    | ● |   |   |   |   |   |   |   |
|                | 2    |     | ●  |    |   | ● |   |   |   |   |   |   |
|                | 3    |     | ●  |    |   |   | ● |   |   |   |   |   |
|                | 4    |     | ●  |    |   |   |   | ● |   |   |   |   |
|                | 5    |     | ●  |    |   |   |   |   | ● |   |   |   |
|                | 6    |     | ●  |    |   |   |   |   |   | ● |   |   |
|                | 7    |     | ●  |    |   |   |   |   |   |   | ● |   |
|                | 8    |     | ●  |    |   |   |   |   |   |   |   | ● |
|                | 9    |     | ●  |    |   |   |   |   |   |   |   |   |

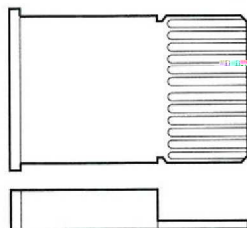
|                |     | MO2 |   |   |   |   |   |
|----------------|-----|-----|---|---|---|---|---|
| Type of tracks |     | C   | 1 | 2 | 4 | 8 |   |
| A              | M02 | *   | 1 | 9 | 7 | 5 | 3 |
|                |     | 9   | 8 | 7 | 6 | 5 |   |
| B              | 0   | ●   |   |   |   |   |   |
|                | 1   | ●   | ● |   |   |   |   |
|                | 2   | ●   |   |   | ● |   |   |
|                | 3   | ●   | ● |   |   |   |   |
|                | 4   | ●   |   |   |   | ● |   |
|                | 5   | ●   |   |   |   | ● |   |
|                | 6   | ●   | ● |   | ● |   |   |
|                | 7   | ●   | ● | ● |   |   |   |
|                | 8   | ●   |   |   |   |   | ● |
| 9              | ●   | ●   |   |   |   | ● |   |

## Output layout

A - Position on printed circuit

B - Dial 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              | Grey | MS/G | 79 211 752 |

## Connectors

Solder terminals **W2** **25 625 493**

Wire-wrap terminals without lugs **X2** **25 625 495**

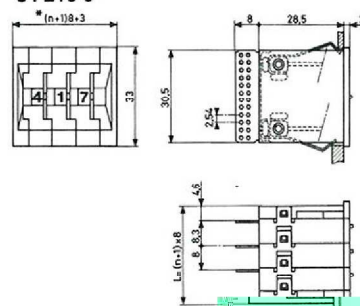
For soldering to printed circuit **X3** **25 625 495**

## Mechanical characteristics

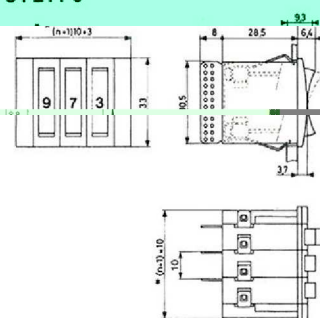
|                          |    |           |
|--------------------------|----|-----------|
| Operating force          | N  | 3         |
| Digit dimensions (H x L) | mm | 4,5 x 2,8 |
| Weight                   | g  | 5,5       |

## Dimensions

**84 210 0**



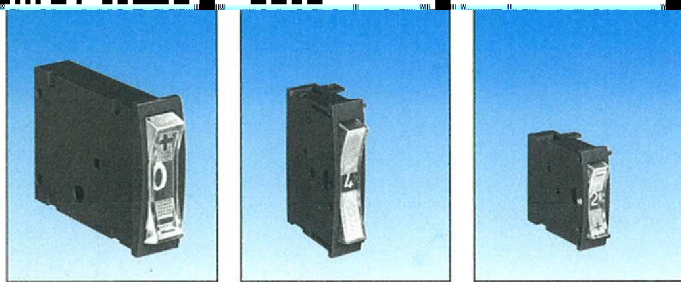
**84 211 0**



## Other information

Other version, codes, colors, case, wheels : please enquire.

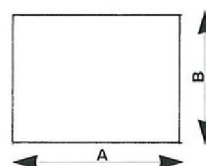




Miniature rocker      Large rocker      Subminiature rocker

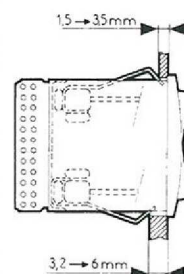
|            |            |            |
|------------|------------|------------|
| 84 217     | —          | —          |
| •          | •          | •          |
| 84 211 0   | 84 212 0   | 84 214 0   |
| •          | •          | •          |
| •          | •          | •          |
| •          | •          | •          |
| •          | •          | •          |
| •          | •          | •          |
| 79 211 823 | 79 211 923 | 79 214 282 |
| 79 211 814 | 79 211 914 | 79 214 219 |
| 79 211 824 | 79 211 924 |            |
| 25 625 493 | 25 625 493 |            |
| 25 625 494 | 25 625 494 |            |
| 25 625 492 | 25 625 492 |            |
| 25 625 495 | 25 625 495 |            |
| 5          | 4          | 5          |
| 4,5 x 2,8  | 6 x 3,75   | 4 x 2,5    |
| 7,5        | 14         | 3,5 → 4    |

### Panel cut-out



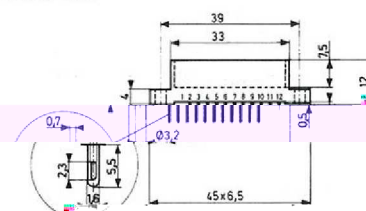
|        | A                      | B    |
|--------|------------------------|------|
| 84 210 | $(n+1) 8 + J$          | 31   |
| 84 211 | $(n+1) 10 + J$         | 31   |
| 84 212 | $(n+1) 12,5 + J$       | 54   |
| 84 214 | $(n \times 7,62) + 35$ | 22,5 |

### Panel thickness

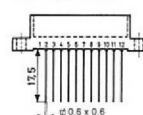


### Connector dimensions

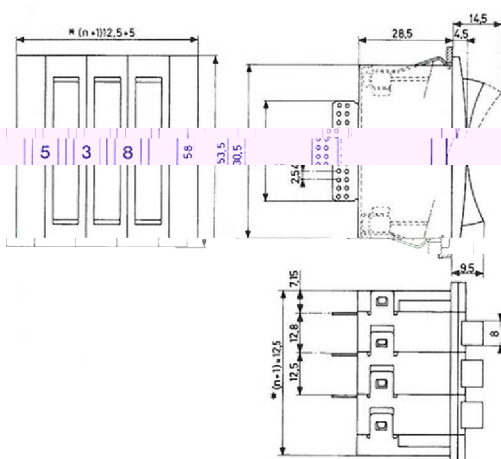
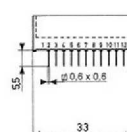
#### 25 625 493



#### 25 625 492 25 625 494



#### 25 625 495



Output  
Pitch 2 for decimal  
Pitch 5 for BCD

\* n = number of modules  
J = Clearance : 1 mm for  $1 \leq n \leq 10$   
15 mm for  $11 \leq n \leq 20$

### To order, specify :

- |                      |                      |                     |
|----------------------|----------------------|---------------------|
| <b>1</b> Type        | <b>2</b> Code        | <b>5</b> Connectors |
| <b>3</b> Connections | <b>4</b> Accessories |                     |

Example : Selector switch 84 210 0 M 01 C G N S - accessories 79 211 709 - connector 25 625 494

Standard products  
non stocked