



# Installation instructions,

250A/400A/630A Panelboard System  
Wall or Floor Mounted Panelboard  
BS EN 61439-2



**DANGER: LIVE PARTS ENCLOSED.** Ensure the unit is installed by a qualified competent person in accordance with all relevant legislation and regulations including building regulations and wiring regulations BS7671. If in doubt contact a qualified competent person.



## IMPORTANT INFORMATION

Follow the instructions below before working on or inside the equipment.



- Turn off all power supplies
- Always use a calibrated volt-sensing device to confirm the power is off.
- Replace all devices, doors and covers before turning on the power to this equipment.
- To avoid ingress of swarf and similar material, always remove gland plates to allow cutting/slotting for cable entries.
- Do not use power screwdrivers on electrical connections.



**Failure to follow these instructions could result in serious injury or death.**

For information on the recommended maximum cable sizes to terminate onto the incoming and outgoing devices please refer to table 1.

**Note:** - It is good engineering practice to apply generous derating factors or make provision for free air between devices. In these situations, and in common with other manufacturers, we recommend a 55 % diversity factor is applied to the MCCB nominal rated current where it is intended to load the MCCB continuously (in excess of 1 hour).

### Incoming Device

**The incoming device & interconnection kits are supplied separately from the panelboard.** Details of which combinations are possible can be seen in the table 2. In addition to devices and interconnections, we recommend considering the fitting of the phase barriers in Table 4

Fully tighten the electrical connections to the recommended torque detailed in Table 1.

Internal accessories can be mounted in the incoming 3VA devices. Please refer to the installation instructions supplied with the accessories for guidance.

### Outgoing Devices

**3VA1 type MCCBs only, to be fitted as outgoing devices.**

Ensure the supply is switched off.

These instructions are to be read in conjunction with the installation instructions supplied with the MCCBs.

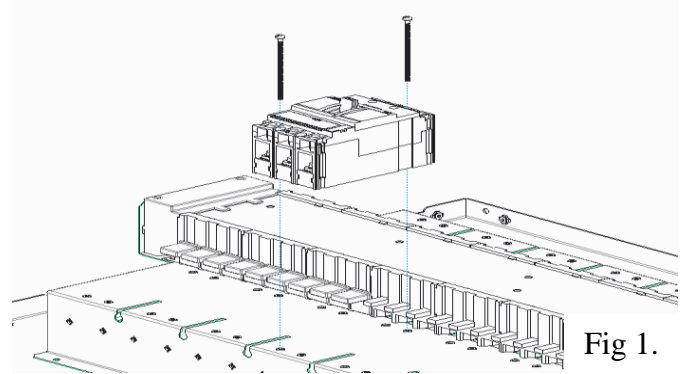
Care must be taken when positioning the MCCB. The terminals 2, 4, & 6 are used for the busbar connections, i.e., with the 'OFF' position towards the busbar.

Fully tighten the electrical connections to the recommended torque detailed in table 1.

If using the screws supplied with the MCCB please note that these screws are for lateral location purposes only, as shown in Fig 1, and should not be overly tightened. The recommended torque for the mounting screws can be found in the manufacturer's leaflets provided with the device. Mechanical strength of the assembly is achieved even if the screws are not fully tightened.

### Earth Connection

Ensure that the M10 nut / bolt assembly which connects the earth cable lug to the **Copper Earthing Point** in the Panel Board is torqued to 27 Nm.



**DO NOT USE POWER TOOL SCREWDRIVERS ON ELECTRICAL CONNECTIONS**

### Outgoing Way Numbering

The outgoing ways must be identified. If the busbar is not pre-numbered, then the installer must number the outgoing ways. Odd numbered ways on the left of the board, way 1 being either at the top or bottom of the busbar assembly. Even numbered ways on the right of the board ascending in the same direction as the odd numbers. Way 1 must be opposite way 2, both either at the top, or the bottom, of the busbar.

### Fitting Cableways

See potential panelboard combinations in table 2 for cableway catalogue numbers. Remove the side plates from the main unit and/or extension unit.

Couple the cableways to the main unit/extension unit(s) using the fasteners provided with the cableway(s).

### Testing & Commissioning

Before the panelboard and the installation, of which it forms a part, are commissioned they must be tested, in accordance with the requirements of the latest edition of the Requirements for Electrical Installations (BS 7671) published jointly by the British Standards Institution (BSI) and the Institution of Engineering and Technology.

**Note:** Before fitting the front cover, check the tightness of all connections, including the factory-made connections. Also ensure that all shrouds are correctly located and secured in place. Unused ways must be fitted with busbar blanks and door blanks.



Electrium Sales Limited, Walkmill Lane, Cannock, WS11 0XE  
Tel: 01543 455000 Fax: 01543 455001



Waste electrical products should not be disposed of with household waste.  
Please recycle where waste disposal facilities exist.  
Check with your retailer, wholesaler or local authority for recycling advice.

Technical Data		250 A	400 A	630 A
Standards Compliance		IEC 61439-2; Ed 2 2011-08		
Short Circuit Withstand Strength	25 kA for 1 s	Short Circuit Withstand Strength		25 kA for 1 s
Rated Voltage		230/400 V 3ph 50 Hz		
Mounting		Wall /Floor		
Entry		Bottom		
Access		All Sides		
Form of Separation		F3bT2		
Degree of Protection		IP3X (door closed)		
Paint Finish		Light Grey RAL7035		
Outgoing Devices		3VA11 type MCCB's ONLY		
For more Information contact Technical support Tel: 0845 850 7600 Email: <a href="mailto:service.gbi.industry@siemens.com">service.gbi.industry@siemens.com</a>				

Table 1 - Cable capacity / Torque settings									
maximum stranded Cu cable	Incoming				Outgoing			Recommended torque settings	
	Switch Disc or MCCB	Direct Connect	Neutral	Earth	160A MCCB	Neutral	Earth	Incoming Earth	Neutral/Earth Outgoing Terminal bars
250 A Panelboard	25..185 mm <sup>2</sup>	M8	M10	M10	70 mm <sup>2</sup>	35 mm <sup>2</sup>	35 mm <sup>2</sup>	40 Nm	6 Nm
400 A Panelboard	50..300 mm <sup>2</sup>	M10	M10	M10	70 mm <sup>2</sup>	35 mm <sup>2</sup>	35 mm <sup>2</sup>	40 Nm	6 Nm
630 A Panelboard	50..300 mm <sup>2</sup>	M10	M10	M10	70 mm <sup>2</sup>	35 mm <sup>2</sup>	35 mm <sup>2</sup>	40 Nm	6 Nm
<b>Note:</b> - Refer to individual kit leaflets for all other recommended torque settings.									
Available terminals	Neutral Bars					Earth Bars			
	6 Way	12 Way	18 Way	6 Way	12 Way	18 Way	6 Way	12 Way	18 Way
250 A Panelboard	22	42	62	22	42	62	22	42	62
400 A Panelboard	22	42	62	22	42	62	22	42	62
630 A Panelboard	22	42	62	22	42	62	22	42	62

Table 2 - Potential panelboard combinations						
Panelboard system	6 Way	12 Way	18 Way			
250 A	NHVM32506	NHVM32512	NHVM32518			
400 A	NHVM34006	NHVM34012	NHVM34018			
630 A	NHVM36306	NHVM36312	NHVM36318			
Meter cableways / dimensions	Meter knockouts	250 A	400 A	630 A	List No.	
Corner / 300 x 249 x 184 mm	0	All Sizes	All Sizes	All Sizes	NHVMCU	
Size 1 / 902 x 249 x 198 mm	4	6w	-	-	NHVM1MCW	
Size 2 / 1132 x 249 x 198 mm	6	12w	6w	6w	NHVM2MCW	
Size 3 / 1361 x 249 x 198 mm	7	18w	12w	12w	NHVM3MCW	
Size 4 / 1591 x 249 x 198 mm	9	-	18w	18w	NHVM4MCW	
Earth leakage cableways / dimensions	Meter knockouts	250 A	400 A	630A	List No.	
Size 1 / 902 x 249 x 198 mm	3	6w	-	-	NHVM1ECW	
Size 2 / 1132 x 249 x 198 mm	4	12w	6w	6w	NHVM2ECW	
Size 3 / 1361 x 249 x 198 mm	5	18w	12w	12w	NHVM3ECW	
Size 4 / 1591 x 249 x 198 mm	6	-	18w	18w	NHVM4ECW	
Extension kits / dimensions						
Control module - 24 mod / 230 x 700 x 198 mm				NHVM24CME		
SPN Distribution board 19 mod / 230 x 700 x 198 mm				NHVMSPNDB		
TPN Distribution board 19 mod / 230 x 700 x 198 mm				NHVMTPNDB		
Cable spreader box / 230 x 700 x 184 mm				NHVM1CSB		
Connection kits						
		TP				4P
250 A	NHVA3250CK					NHVA4250CK
400 A	NHVA3400CK					NHVA4400CK
630 A	NHVA3630CK					NHVA4630CK
Incoming MCCB device						
		TP				4P
250 A	N/A					N/A
400 A	NHVA3400MCCB					NHVA4400MCCB
630 A	NHVA3630MCCB					NHVA4630MCCB
Incoming switch disconnecter device						
250 A	NHVA3250SW					NHVA4250SW
400 A	NHVA3400SW					NHVA4400SW
630 A	NHVA3630SW					*NHVA4630SW
* DE-RATED TO 500 A						

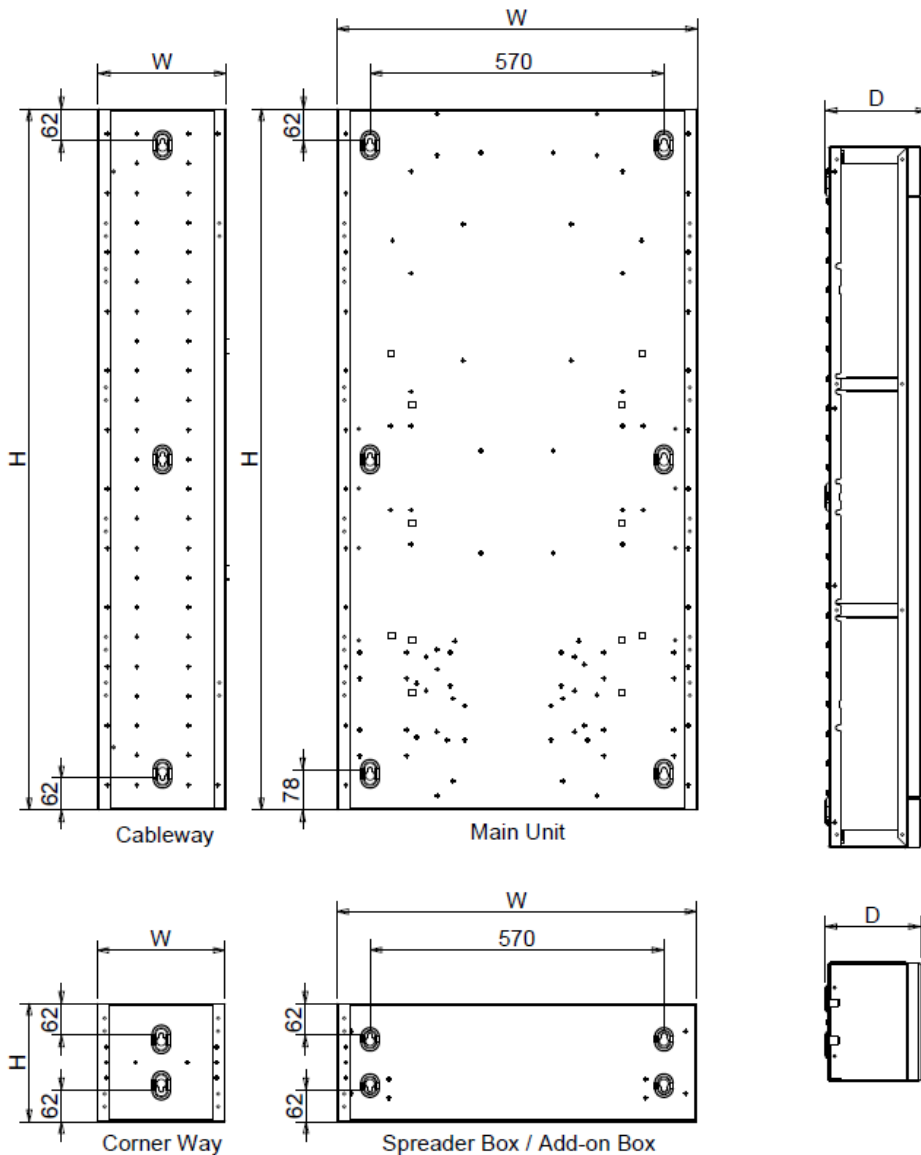


**Table 3 - Dimensions for the main unit and cableways**

Main Units	Description	Dimensions (mm)			Distance from gland plate to incoming terminals (mm)
		H	W	D	
NHVM32506	250 A: 6 Way	902	700	198	257
NHVM32512	12 Way	1132	700	198	257
NHVM32518	18 Way	1361	700	198	257
NHVM34006	400 A: 6 Way	1132	700	198	345
NHVM34012	12 Way	1361	700	198	342
NHVM34018	18 Way	1591	700	198	342
NHVM36306	630 A: 6 Way	1132	700	198	342
NHVM36312	12 Way	1361	700	198	342
NHVM36318	18 Way	1591	700	198	342

**Table 4 - Shroud options**

	250 A Panel Board	400 A Panel Board	630 A Panel Board
Extended front terminal inc. phase barriers 3P Kit	NHVA9253-0QB00	NHVA9483-0QB00	NHVA9483-0QB00
Extended front terminal inc. phase barriers 4P Kit	NHVA9254-0QB00	NHVA9484-0QB00	NHVA9484-0QB00
Extended spreaded front terminal inc. phase barriers 3P Kit	NHVA9253-0QC00	NHVA9483-0QC00	NHVA9483-0QC00
Extended spreaded front terminal inc. phase barriers 4P Kit	NHVA9254-0QC00	NHVA9484-0QC00	NHVA9484-0QC00
Extended terminal shield 3P ( 1pc)	NHVA9211-0WF30	NHVA9481-0WF30	NHVA9481-0WF30
Extended terminal shield 4P ( 1pc)	NHVA9211-0WF40	NHVA9481-0WF40	NHVA9481-0WF40
Extended spreaded terminal shield 3P ( 1pc)	NHVA9211-0WG30	NHVA9401-0WG30	NHVA9401-0WG30
Extended spreaded terminal shield 4P ( 1pc)	NHVA9211-0WG40	NHVA9401-0WG40	NHVA9401-0WG40



Electrium Sales Limited, Walkmill Lane, Cannock, WS11 0XE  
Tel: 01543 455000 Fax: 01543 455001



Waste electrical products should not be disposed of with household waste.  
Please recycle where waste disposal facilities exist.  
Check with your retailer, wholesaler or local authority for recycling advice.

