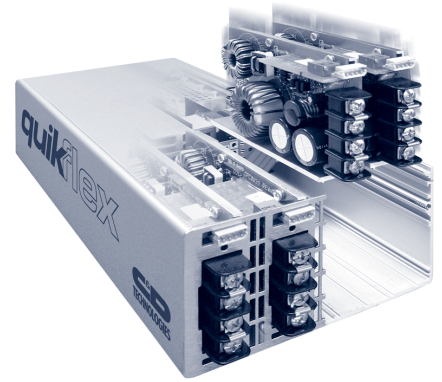


# quikflex

## QF SERIES INSTALLATION & SAFETY INSTRUCTIONS



**PLEASE READ THESE INSTALLATION AND SAFETY INSTRUCTIONS CAREFULLY BEFORE INSTALLATION OR USE OF THIS PRODUCT, AND KEEP THEM IN A SAFE PLACE FOR FUTURE REFERENCE. FOLLOW ALL WARNINGS AND INSTRUCTIONS MARKED ON THE PRODUCT.**

**HIGH VOLTAGE WARNING!**  
Dangerous voltages are present within these power supplies. These products should only be worked on by qualified personnel.

## INSTALLATION INSTRUCTIONS

The Quikflex Series is designed for use within other equipment or enclosures, which restrict access to authorised competent personnel only. The unit covers are designed only to protect skilled personnel from hazards. They must not be used as part of the external covers of any equipment where they may be accessible to operators, since, under full load conditions, part or parts of the unit may reach temperatures in excess of those considered safe for operator access.

The Quikflex series power supplies contain an integral fan and can

be mounted in any orientation provided that the air intake and air outlet slots are not obstructed. When mounting in other equipment, particular regard must be paid to provide adequate ventilation holes in any chassis on which or near which the unit is mounted.

When securing the product, do not use screws which infringe the maximum penetration depth of 4mm as specified in the mechanical section of the Quikflex QFG and QFM series datasheets. Customer fixings are provided on one side of the unit and the base.

Make sure the unit is supplied only by a power source of the type indicated on its label. The safety approved input terminal block is accessible on the input end plate of the power supply. Connections should be made using appropriately coloured mains wires and an appropriate disconnect device must be provided as part of the building installation.

AFTER DISCONNECTING THE AC SOURCE, ALLOW 4 MINUTES BEFORE REMOVING COVERS TO ALLOW CAPACITORS WITHIN THE UNIT TO DISCHARGE.

### EARTH TERMINAL MARKING IMPORTANT

If in the end use equipment the incoming mains cable earth wire connects directly to the "GND" connection on the Quikflex without being interrupted or junctioned on its way to that connection, then this connection is designated as the main protective earth of the system.

For the Quikflex QFG series to comply with IEC60950, EN60950, and UL1950 requirements then this must be marked with the symbol defined in the IEC417 No. 5019a. For the Quikflex QFM series to comply with EN60601-1, UL2601-1 and CSA22.2-601-1 requirements then this must be marked with the symbol defined in the IEC417 No. 5019a. The customer should therefore affix an adhesive label which will pass the 15 Second rub test (IEC60950 section 1.7.15) showing the symbol (right) adjacent to the earth connection. This symbol must only be used at the first interruption / connection of the incoming earth wire.



### RECEIPT AND UNPACKING

On receipt a unit should be unpacked carefully and checked for transit damage. If the unit is damaged, do not apply power or install the unit. Please contact your distributor, sales representative or C&D Technologies Power Electronics division directly.

### WARRANTY

Warranty conditions are contained in standard terms and conditions of your supplier. Please contact your sales representative for repair. Warranty is voided if the warranty seal is broken.

### ABSOLUTE MAXIMUM RATINGS

Input Voltage Rating	88 to 264 VAC
Input Frequency	47 to 63 Hz
Altitude	-155 metres to +3050m from sea level
Humidity	10 to 95% non-condensing.
Operating temp	0 to 70°C (Derate at 2.5% per °C above 50°C and up to 70°C)

### SAFETY

#### Internal Fusing

Model	Fuse	Type	Voltage
QFX4B	8A	F	250V
QFX4C	10A	F	250V
QFX6C	10A	F	250V
QFX6D	15A	F	250V

All fuses must be 6.3mm x 30mm and UL Listed. To protect against risk of fire, replace only with fuses of same rating and type. Fuses must be replaced by qualified service personnel only.

The Quikflex QFG Series is designed to comply with the requirements of IEC60950, EN60950, UL1950, CSA 22.2 No. 234 and IEC 61010, when correctly installed in a limited access environment. The Quikflex QFM series is designed to comply with the requirements of EN60601-1, UL2601-1 and CSA 22.2-601-1 and EN61010 when correctly installed in a limited access environment.

For current approval status, please contact your distributor, sales representative or C&D Technologies Power Electronics division directly.

Quikflex modules QFMOD 2/3/4/70 are capable of providing hazardous energy levels (>240 VA). Equipment manufacturers must provide protection to service personnel against inadvertent contact with the module output terminals. Surfaces of these units may be hot and must not be touched when the units are in operation or for whatever period of time is necessary after shutdown for the units to be sufficiently cool to touch.

### APPROVAL LIMITATIONS

#### A) Use In North America

When this product is used on 180 to 253 Volts AC mains with no neutral, connect the two live wires to L (live) and N (neutral) terminals on the input connector.

**B) Module Limitations** (For Quikflex QFG series: UL1950, CSA 22.2 No. 23 and EN60950) and (For Quikflex QFM series: UL2601-1, EN60601-1 and CSA 22.2-6-1-1)

- 1 QFMOD1 may be used in slots A, B and C only
- 2 QFMOD70 (uses 2 slots) may be used in slots A & B only.
- 3 The maximum number of type QFMOD1 modules permissible in QF(G/M)4 & QF(G/M)6 units is 2 and 3 respectively.
- 4 Only one QFMOD70 module is permissible in any unit.
- 5 The maximum total power that may be drawn from slots A, B & C in a QF(G/M)6 model is 550W. Similarly, the maximum total power that may be drawn from slots D, E & F in a QF(G/M)6 model is also 550W

Operation of the modules outside the above limitations invalidates Safety Agency approval.

### ENVIRONMENTAL PARAMETERS

The Quikflex Series is designed for the following parameters:

- Pollution Degree 2
- Installation Category 2
- Class 1
- Indoor use (as part of another piece of equipment such that the unit is accessible to service Engineers only).

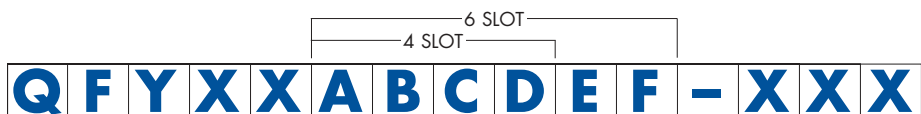
### OUTPUT MODULE SPECIFICATIONS

	Output Configuration	No. of Slots	V <sub>OUT</sub> Min	V <sub>OUT</sub> Nom	V <sub>OUT</sub> Max	I <sub>MAX</sub>	OVP Set Point	Current Limit Onset <sup>2</sup>	Voltage Trim Range
<b>Module Ref:</b>			[V]	[V]	[V]	[A]	[V]	[A]	% from set-point
<b>QFMOD1</b>	Single	1	3.0	5.0	5.6	30.0	6.5	33.0	+9/-20
<b>QFMOD2</b>	Single	1	5.0	12.0	13.0	20.0	15.0	22.0	+9/-25
<b>QFMOD3</b>	Single	1	8.0	18.0	20.0	15.0	23.0	16.5	+9/-40
<b>QFMOD4</b>	Single	1	12.0	24.0	28.0	12.0	31.0	13.0	+9/-50
<b>QFMOD5</b>	Dual	1	10.0	24.0	28.0	3.0	31.0	3.5	+9/-50
			10.0	24.0	28.0	3.0	31.0	3.5	-
<b>QFMOD6</b>	Dual	1	3.0	5.0	5.6	10.0	6.5	11.0	+9/-20
			10.0	24.0	28.0	3.0	31.0	3.5	-
<b>QFMOD70<sup>1</sup></b>	Single	2	1.45	5.0	5.6	80.0	6.5	85.0	+9/-20

1 Module 70 Current limit adjustable from 40A to 85A. Please refer to Application Note ACAN06 (go to: [www.cdpoweronline.com](http://www.cdpoweronline.com)).

2 Typical over current protection is implemented by means of straight-line current limit, which comes into effect at approximately 110% -115% of maximum rated current.

**PART NUMBERING**



SERIES	
<b>QFG</b>	General
<b>QFM</b>	Medical

PACKAGE STYLE	
<b>4</b>	4 Slots
<b>6</b>	6 Slots

POWER RATING	
<b>B</b>	400W
<b>C</b>	600W
<b>D</b>	1000W

MODULES	
<b>0</b>	Empty Slot
<b>1</b>	QFMOD1
<b>2</b>	QFMOD2
<b>3</b>	QFMOD3
<b>4</b>	QFMOD4
<b>5</b>	QFMOD5
<b>6</b>	QFMOD6
<b>70</b>	QFMOD70

OPTIONAL FEATURES...	
<b>003</b>	Mains Power Fail & Global Enable
<b>005</b>	Mains Power Fail & Global Inhibit
<b>006</b>	Mains Power Fail & Global Enable & Isolated Bias Supply Voltage
<b>007</b>	Mains Power Fail & Global Inhibit & Isolated Bias Supply Voltage

Please refer to ACAN06 for detailed information on module slot restrictions and power calculation methodology.

**...OR CUSTOM CONFIGURATION**

Units are shipped with factory set nominal output voltages. Quikflex power supplies can be factory configured to user specifications e.g. voltage adjustment, parallel and/or serial connections. A unique custom part number will be assigned by the factory for each configuration. For further information please refer to ACAN06 (available at [www.cdpoweronline.com](http://www.cdpoweronline.com)).

**CONNECTORS AND PIN-OUTS**

**J1 TERMINAL CONNECTIONS**

**1** Live (LHS) **2** Earth (Centre) **3** Neutral (RHS)

**J2 CONNECTOR PIN-OUT**

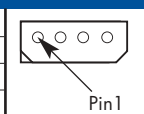
Pin	Option 003 Mains Power Fail + Global Enable	Option 005 Mains Power Fail + Global Inhibit
1	Enable Negative (diode cathode)	Inhibit Negative (diode cathode)
2	Enable Positive (diode anode)	Inhibit Positive (diode anode)
3	Mains Fail Positive (collector)	Mains Fail Positive (collector)
4	Mains Fail (Negative)	Mains Fail (Negative)

Pin	Option 006 Mains Power Fail + Global Enable + Isolated Bias Supply Voltage	Option 007 Mains Power Fail + Global Inhibit + Isolated Bias Supply Voltage
1	Bias Supply 5V SELV Output	Bias Supply 5V SELV Output
2	Enable Input	Inhibit Input
3	Mains Fail Positive (collector)	Mains Fail Positive (collector)
4	COM	COM

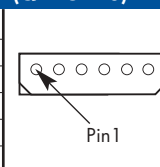
**J3 CONNECTOR PIN-OUT**

- 1 Module Power Good
- 2 COM
- 3 Remote Inhibit
- 4 Voltage Adjust



**J3 CONNECTOR PIN-OUT (QFMOD70)**

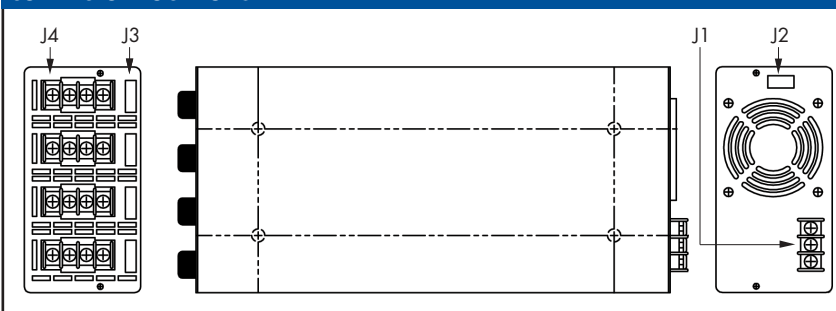
- 1 +Sense
- 2 - Sense
- 3 +5V Bias (25mA max)
- 4 Voltage Adjust
- 5 Remote Inhibit/Enable
- 6 Module Power Good



**J4 TERMINAL CONNECTIONS**

Terminal	QFMOD1/2/3/4	QFMOD5/6	QFMOD70
1	+Sense	Output 1 +V <sub>OUT</sub>	+V <sub>OUT</sub>
2	+V <sub>OUT</sub>	Output 1 -V <sub>OUT</sub>	-V <sub>OUT</sub>
3	-V <sub>OUT</sub>	Output 2 +V <sub>OUT</sub>	N/A
4	-Sense	Output 2 -V <sub>OUT</sub>	N/A

**CONNECTOR LOCATIONS**



C&D Technologies (NCL) Limited reserve the right to alter or improve the specification, internal design or manufacturing process at any time, without notice. Please check with your supplier or visit our web site to ensure that you have the current and complete specification for your product before use. For information and instructions on use, please consult the ACAN05 SERIES APPLICATION NOTES.

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ACAN07

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