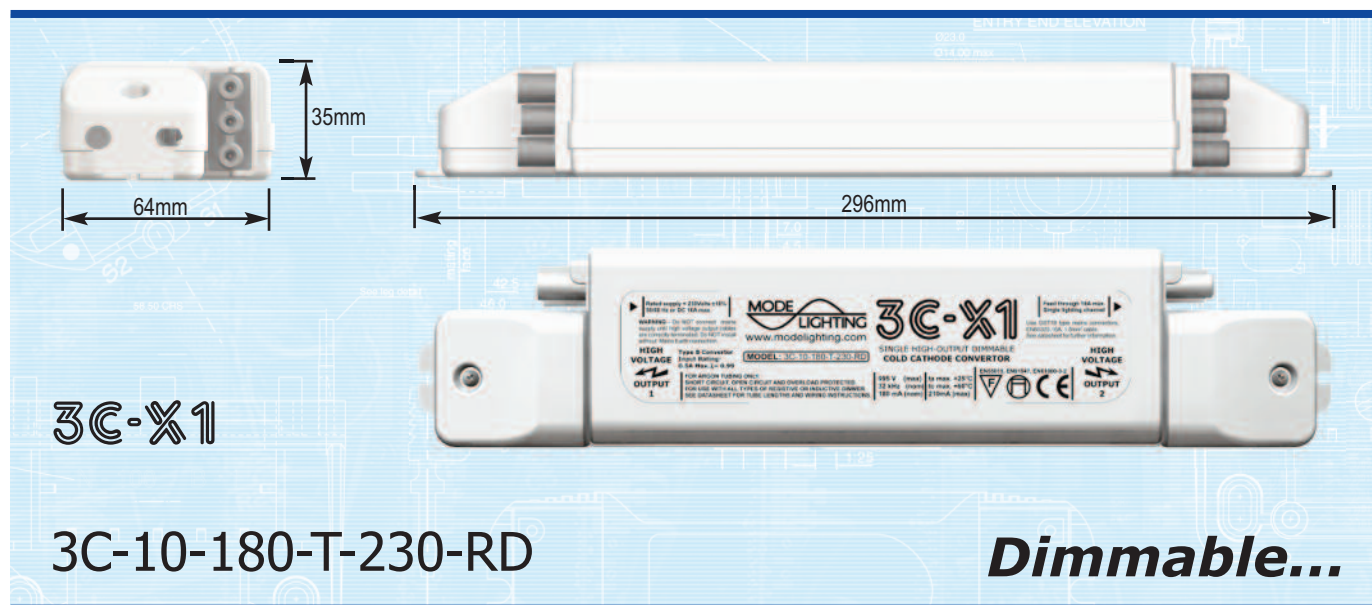


# Cold Cathode Converter

## 3C-X1



## 3C-X1

### 3C-10-180-T-230-RD

### Dimmable...

- Dimmable with all types of dimmer.
- Constant current High Frequency output.
- Designed for use with Argon tubes.
- No minimum length of tubing.
- Open circuit and overload protected.
- Lightweight and compact size.
- Terminal covers with cable clamps.
- Complies with EC EMC and Low Voltage Directives (CE).
- Designed to meet EN 61050 and EN50107-1 / EN61347-2-10 (Draft).
- Easy installation - plug/socket mains connections.
- Mode products are guaranteed for two years.

TECHNICAL DATA		3C-10-180-T-230-RD
<b>INPUT</b>	Voltage Power Power Factor Frequency Connection	* 230 Volts +/- 10% (*115 Volts +/- 10% versions available to special order) 120 watts maximum 0.99 DC or 50/60 Hz Plug and socket mains connections.
<b>OUTPUT</b>	Voltage Current S/C Current Frequency Connection	995V maximum 180mA nominal 210mA maximum 32kHz Brass terminals
<b>EFFICIENCY</b>		92% typical
<b>REGULATION</b>		5% typical
<b>ISOLATION</b>		4240 volt to EN 60065
<b>TEMPERATURE</b>	Ambient Case	-20°C to +50°C maximum. +80°C maximum
<b>DIMENSIONS</b>		296mm x 64mm x 35mm
<b>WEIGHT</b>		500 grammes
<b>PROTECTION</b>	Open Circuit Overload	Shut down Shut down
<b>FUSING</b>	Primary	Fusible PCB link
<b>EMC EMISSION</b>		EN 55015
<b>EMC IMMUNITY</b>		EN 61547
<b>HARMONICS</b>		EN 61000-3-2
<b>SAFETY</b>		EN 61050 EN 50107-1 EN 61347-2-10 (Draft)
<b>CASE MATERIAL</b>		Flame retardant to UL94 - V0
<b>CASE COLOUR</b>		White

## DESCRIPTION

The Mode '3C' range has been designed specifically to operate argon pumped cold cathode lighting tubes of diameter 18-25mm. The '3C' is effectively a modern update to the popular 'Argotran' from Mode Lighting. It offers the same functionality but with far greater usability.

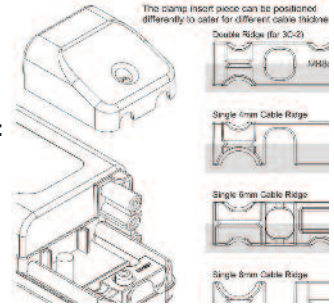
Both 'Argotran' and '3C' are generally used to power concealed up-lighters in coffers or cornices. For this type of indirect lighting, a higher brightness is required than would normally be needed for simple Argon signage. There are three high output models of '3C' to choose from. This model is the '3C-2' which is a 90mA twin output version. It has an output voltage of less than 1kV and is therefore classified as a low voltage convertor.

'3C' is fully dimmable by all types of leading and trailing edge dimming systems and has open circuit and overload protection. Installation is now easier than ever with pluggable mains connectors and single screw cable clamps.

## INSTALLATION INSTRUCTIONS

The 3C operates at High Frequency (32kHz) and it is important that the HT lead capacitance is kept to a minimum.

- 1. Leads A and B should be as short as possible. See maximum cable length chart below.
- 2. The mains input and output on the 3C allows easy linking of multiple devices. A single chain should not draw more than 16A. No more than 30 3C-2's should therefore be chained together.
- 3. Use the correct type of HT cable. Do not use screened HT cable types A, D, or E. Terminals are designed for flexible conductors 0.75-1.5mm<sup>2</sup>. For HT wiring use one of these low capacitance cables:
  - i) Type B - Silicone with a minimum diameter of 6.5mm
  - ii) Type C - 8.0 mm PVC sheathed silicone with a minimum silicone diameter of 6.5 mm.
  - iii) Type H - 6.5 mm PVC sheathed polyethylene with a minimum polyethylene diameter of 3.0 mm
- 4. Separate all HT cables and tubes of different circuits by at least 30 mm. Observe the maximum total tube length as specified in the loading charts below.

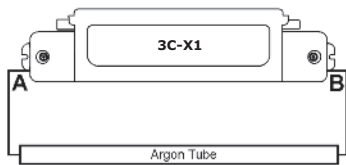


- 5. Mount in a well ventilated area and do not cover with insulation materials. Install in dry rooms and similar protected environments. Ensure that all cables are secured by cable clamps and that the terminal covers are correctly fitted.

Installation should be in accordance with the relevant National Wiring Regulations and other applicable Regulations. Compliance with the EC EMC and Low Voltage Directives may be invalidated if not used or installed according to the published specification.

## CONNECTION FOR HT

HT Connection



### H.T. (OUTPUT) CABLE LENGTHS

**MAXIMUM CABLE LENGTH: A+B (see connection diagram)**

MOUNTING SURFACE	3C-X1
Mounted directly onto Metal. Use only Type C cable	12m (per output)
Mounted directly onto Brick or Concrete	15m (per output)
Mounted on 35mm supports above any surface	30m (per output)

### LOADING CHARTS (120VA)

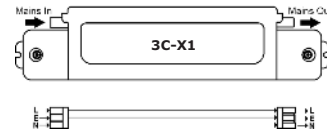
(Per Output for model 3C-2)

All tubes must be connected up to the total maximum tube length as detailed opposite. All tube lengths are in metres and are measured between electrodes.

3C-X1	ARGON GAS (BLUE)				
	NUMBER OF TUBES				
Ø mm	1	2	3	4	5
	Total Length (metres)				
25	2.3	2.2	2.1	2.0	1.9
20	2.1	2.0	1.9	1.8	1.7
18	1.8	1.7	1.6	1.5	1.4

## CONNECTION FOR MAINS

Mains Connection



### MODE LIGHTING PRE-ASSEMBLED MAINS LEADS PLUG TO SOCKET

Description	Code
GST Mains Cable 0.5 metre plug to socket - White	GST-CAB-0.5M-1P-1S-W
GST Mains Cable 2 metre plug to socket - White	GST-CAB-2M-1P-1S-W
GST Mains Cable 2 metre free end to socket - White	GST-CAB-2M-FE-1S-W
GST Mains Cable 4 metre plug to socket - White	GST-CAB-4M-1P-1S-W
Re-Wirable Plug - White	GST-CON-1P-W - GST
GST Re-Wirable Socket - White	GST-CON-1S-W
GST Distribution Block 1 plug to 3 sockets - White	GST-DB-1P-3S-W