

DRUGCLAMP **FUSED G CLAMP TYPE** **BUS BAR CONNECTOR**

Instruction **Manual**



MARTINDALE
● ● ● **ELECTRIC**

Keeping You Safe



GENERAL SAFETY INFORMATION: Always read before proceeding.

Warning

These instructions contain both information and warnings that are necessary for the safe operation and maintenance of this product. It is recommended that you read the instructions carefully and ensure that the contents are fully understood. Failure to understand and to comply with the warnings and instructions can result in serious injury, damage or even death.

In order to avoid the danger of electrical shock, it is important that proper safety measures are taken when working with voltages exceeding 30V AC rms, 42V AC peak or 60V DC.

This product must only be used by a competent person capable of interpreting the results under the conditions and for the purposes for which it has been constructed. Particular attention should be paid to the Warnings, Precautions and Technical Specifications. Always check the unit is in good working order before use and that there are no signs of damage to it. Do not use if damaged.

Where applicable other safety measures such as use of protective gloves, goggles etc. should be employed.

Please keep these instructions for future reference. Updated instructions and product information are available at: www.martindale-electric.co.uk

REMEMBER: SAFETY IS NO ACCIDENT

MEANING OF SYMBOLS:



Equipment complies with relevant EU Directives



Equipment complies with relevant UK Conformity Assessed marking



End of life disposal of this equipment should be in accordance with relevant Directives



Caution - risk of electric shock



Caution - risk of danger & refer to instructions

CAT IV

Overvoltage Category IV (CAT IV) is for equipment at or near the origin of the electrical supply including LV substation bus bars, electricity tariff meters and primary overcurrent protection devices.

Thank you for buying one of our products. For safety and full understanding of its benefits please read this manual before use. Technical support is available from 01923 441717 and support@martindale-electric.co.uk.

1. INTRODUCTION

1.2 Description

The DRUMMOND G Clamp is a moulded insulated clamp-on connector designed to provide a direct connection to a rigid rectangular bus bar.

The clamp-on facility eliminates the need to drill the bus bar.

The insulated materials reduce the risk to the installer.

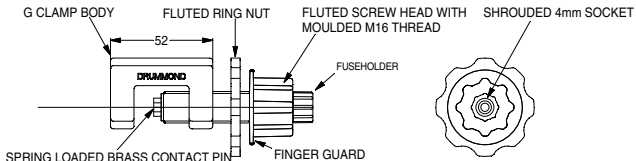
To counter the effects of vibration, a spring-loaded contact pin ensures consistent electrical contact force that is independent of the clamp screw installed torque and a locking ring nut secures the clamp screw against loosening.

Fluted grip features enable the clamping screw and locking ring nut to be tightened by hand while wearing PPE insulated gloves. This eliminates the need to use tools within the bus bar chamber.

A 4mm shrouded socket is provided in the fluted head of the moulded screw.

The connection is suitable for up to 10A continuous use at 600V AC, subject to appropriate rating of the 4mm plug and lead.

The fluted screw head incorporates a finger guard to signify the limit of the ACCESSIBLE area at the head of the screw.



2. PRODUCT SPECIFIC SAFETY INFORMATION

2.1 RISK ASSESSMENT

Warning

It must be noted that this G Clamp provides a direct electrical connection to a bus bar.

The G Clamp does not contain any attenuation or impedance.

Therefore, a full risk assessment must be undertaken by the installer or responsible body before any decision is made to install or manipulate the G Clamp or the plug connection while the bus bar is HAZARDOUS LIVE. Appropriate PPE must be worn unless the bus bar is known to be isolated from all risk of hazardous voltages including the effects of capacitance, inductance, switching transients or lightning strike.

The installer must adhere to the working practices issued by the responsible body. Since these working practices and the conditions of use are outside the control of Martindale Electric, no liability can be accepted for the outcome.

2.2 Further checks

Warning

Before use check the unit for cracks or any other damage. Make sure the unit is free from dust, grease and moisture. Also check any associated leads. Do not use if damaged.

Caution

Avoid severe mechanical shock or vibration and extreme temperature.

3. INSTALLATION

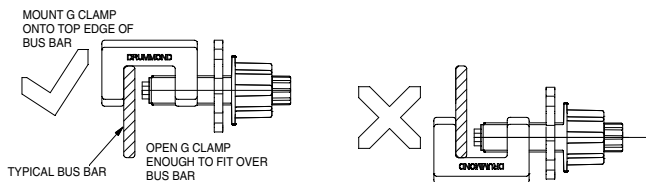
Warning

Refer to Risk Assessment at 2.1 before commencing installation.

The DRUMMOND G Clamp should be mounted on the top edge of the bus bar.

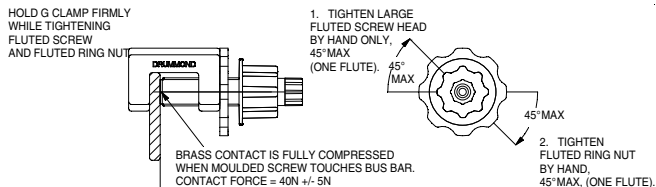
A location should be selected that allows easy access to hold the G Clamp securely while the screw is being tightened. A suitable physical clearance is required to allow for the 4mm plug connection. This will depend on the choice of plug. A clearance of 35mm is required for a standard DRUMMOND 4mm fixed-shroud plug. Note that other designs of 4mm plug might require considerably more clearance. Moving elements of doors, hinges, door locking systems and other covers must also be taken into account.

For withdrawal of fuse holder allow a further 75mm.

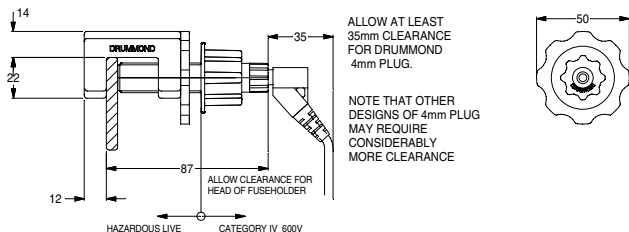


The bus bar surface should be clean at the area of intended contact. If necessary, clean the bus bar surface according to the instructions issued by the responsible body.

The G Clamp should be opened as far as necessary to engage fully over the edge of the bus bar. Hold the G Clamp stable and tighten the M16 moulded screw against the face of the bus bar to compress the spring-loaded brass contact. The brass contact will be compressed into the screw until the end face of the moulded screw touches the surface of the bus bar. Tighten the fluted head of the moulded screw BY HAND a further 30 - 45 degrees. (Equivalent to ONE flute MAXIMUM). DO NOT OVERTIGHTEN.



After tightening the screw, tighten the fluted ring nut against the G Clamp body to lock the screw. Tighten the fluted ring nut BY HAND a further 30 - 45 degrees after first touches the G Clamp body, (ONE flute MAXIMUM). DO NOT OVERTIGHTEN.



Equipment leads must use 4mm plugs of appropriate rating for the installation.

Attach the equipment lead to the 4mm socket in the head of the screw.

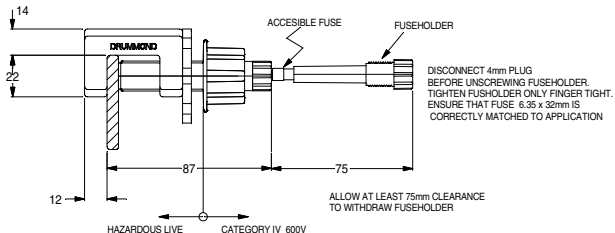
Leads should be dressed and supported so that no forces act on the G Clamp or the 4mm plug.

The G Clamp is intended to be a fixed connection.

In NORMAL use, after correct installation, the G Clamp is not intended to be hand-held or hand-manipulated by the OPERATOR during measurements or tests.

After a suitably rated 4mm fixed-shroud plug has been connected to the 4mm socket in the screw head, the area on the head side of the finger guard is rated CATEGORY IV 600V and provides REINFORCED INSULATION against 8kV transient impulse.

The area on the threaded side of the finger guard should be treated as HAZARDOUS LIVE at all times.



4. MAINTENANCE

4.1 Fuse Replacement

The Fused Drummond G Clamp is supplied as standard with a 6.35 dia X 32mm, 600V, 0.5A, 50kA ceramic HRC rated fuse, but this may have been changed for a different fuse rating at the time of initial installation.

A fuseholder body containing the fuse is housed inside the main screw of the Fused G Clamp.

Disconnect 4mm plug from end of Fuseholder Body.

Unscrew fuseholder Body to access fuse according to the picture. The G Clamp itself does not need to be disturbed.

Replace the fuse ONLY with the precise fuse specified for the installation.

Screw Fuseholder Body back into place.

Check security of G Clamp.

Apply suitable safety checks before re-connecting 4mm Plug, which will apply power immediately to the installed wiring.

Spare fuses are available from Martindale Electric using order code FUSE500 (pack of 3).

Specification GCLAMP/F Fused Drummond G Clamp



The Drummond G Clamp makes connecting to bus bars straight forward. The clamp-on design eliminates the need to drill bus bars and makes for a much safer reliable connection via a standard 4 mm socket.

Ideal for connecting power monitoring and measuring equipment, the new colour coded clamps make phase identification easy. The insulated materials reduce the hazard to the operator and the spring loaded contact pin and locking ring ensure reliable results throughout extended logging periods.

The G Clamp can be tightened by hand when wearing PPE gloves, eliminating the need to use tools in the bus bar chamber.

They are available in Brown, Black and Grey. The standard fused version is supplied with a replaceable 0.5A fuse within the clamping screw providing protection at the source. Other fuse ratings are available on request.

Available individually and in 3 phase connection kit sets including a blue unfused G clamp for the neutral connection which requires 25mm less clearance in front of the bus bar.

Individual G clamps

DRUGCLAMP/F0.5/BK (Fused 0.5A Black)
DRUGCLAMP/F0.5/BR (Fused 0.5A Brown)
DRUGCLAMP/F0.5/GY (Fused 0.5A Grey)

Connection Kit 1

GCK/F/KIT1
Set of four G Clamps, black, brown, grey fused and blue unfused.

Connection Kit 2

GCK/F/KIT2
Set of four G clamps black, brown, grey fused and blue unfused with 4m heavy duty colour coded CATIV test leads. The leads are terminated with 45 degree 4mm safety plugs at both ends.

ELECTRICAL SPECIFICATIONS

Applied electrical contact force: 40N +/- 5N
Maximum working voltage: 600V AC
Maximum working current: 10A

GENERAL SPECIFICATIONS

Temperature & Humidity:
Operating: -15°C to 60°C ≤ 80% R.H.
Storage: -15°C to 60°C ≤ 80% R.H.
Altitude: up to 2000m

Dimensions

Length behind bus bar: 12mm
Length in front of bus bar: 87mm (+ 35mm as minimum allowance for 4mm plug)
Height above top of bus bar: 14mm
Width: 50mm for locking ring nut
Clearance: Required to withdraw fuse holder 75mm

Bus bar

Suitable for rectangular bus bar ONLY. Not suitable for round conductor.
Minimum Bar width: 20mm
Minimum bar thickness: 4mm
Maximum bar thickness: 26mm

Materials

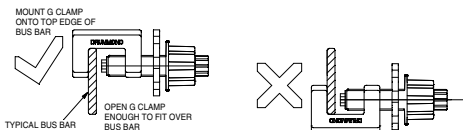
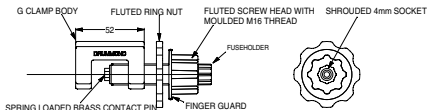
Nylon 66, reinforced with glass fibre
Brass contact pin

Safety

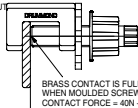
Conforms to BS EN 61010-031:2015.
Installation Overvoltage Rating CAT IV 600V
Pollution Degree: 2
IP rating: IP40 (with connector in mated position).
Fuse: 6.35 x 32mm 600V 0.5A HBC
For enhanced safety, the fuse is fully recessed inside the fuse holder until the fuse holder is withdrawn.

**RISK ASSESSMENT IS REQUIRED
BEFORE INSTALLATION.**

Specification GCLAMP/F Fused Drummond G Clamp



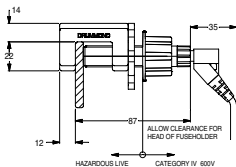
HOLD G CLAMP FIRMLY WHILE TIGHTENING FLUTED SCREW AND FLUTED RING NUT



1. TIGHTEN LARGE FLUTED SCREW HEAD BY HAND ONLY. 45° MAX (ONE FLUTE).

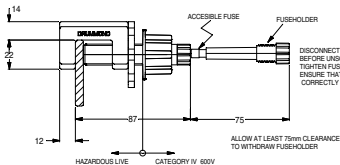


2. TIGHTEN FLUTED RING NUT BY HAND. 45° MAX. (ONE FLUTE).



ALLOW AT LEAST 35mm CLEARANCE FOR DRUMMOND 4mm PLUG.

NOTE THAT OTHER DESIGNS OF 4mm PLUG MAY REQUIRE CONSIDERABLY MORE CLEARANCE



DISCONNECT 4mm PLUG BEFORE UNSCREWING FUSEHOLDER. TIGHTEN FUSEHOLDER ONLY FINGER TIGHT. ENSURE THAT FUSE 6.35 x 32mm IS CORRECTLY MATCHED TO APPLICATION

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- Safe Isolation Kits
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- Phase Rotation Testers
- Proving Units
- Socket Testers
- Thermometers & Probes
- Test Leads
- Voltage Indicators
- Specialist Metrohm Tester
- Specialist Drummond Testers

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Ver. C1.1

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