

INSTALLATION / WARRANTY INSTRUCTIONS

Issue Date: 17/06/2024

PRODUCT: HYBRID 1 STEP CONSTANT CURRENT DRIVERS for RAPTOR 4/3/2 & BRITELINE 2/1
PRODUCT CODE/S: IP20 - HYB1ST240V, HYB1ST415V
IP65 - HYB1ST240VIP65, HYB1ST415VIP65

PLEASE READ THESE INSTALLATION INSTRUCTIONS CAREFULLY BEFORE INSTALLING OR MAINTAINING THIS EQUIPMENT. THE PRODUCT IS DESIGNED FOR INSTALLATION AND MAINTENANCE IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS (AS3000) AND LOCAL REGULATIONS (WHERE APPLICABLE), BY AN AUTHORISED AND LICENCED ELECTRICIAN. THE INSTALLATION INSTRUCTIONS WERE CORRECT AT THE TIME OF PRINT. TO REFLECT CHANGES IN TECHNOLOGY AND AUSTRALIAN STANDARDS; SYLVANIA SCHRÖDER RESERVES THE RIGHT TO AMEND THE INSTRUCTIONS WITHOUT NOTICE. UPDATED GUIDELINES CAN BE FOUND ON THE RELEVANT BRAND WEB SITE.
IMPORTANT - THE PRODUCT MUST BE MAINTAINED AND OPERATED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, FAILURE TO DO SO MAY DAMAGE THE PRODUCT AND SERVICES. IT IS STRONGLY RECOMMENDED THAT THIS IMPORTANT NOTE BE COMMUNICATED TO THE OWNER AND OR OPERATOR OF THE INSTALLATION AT THE TIME OF SITE COMMISSIONING. GOOD PRACTICE DOES NOT RECOMMEND THE 24/7 USE OF PRODUCTS WITHOUT THE APPLICATION OF SUITABLE SWITCH CYCLE INTERVALS. FURTHERMORE, WITH THE OMISSION OF NOMINATED SURVIVAL CURVES AND OR RECOMMENDED OPERATING HOURS, PRODUCT DESIGN EXPECTATIONS PROVIDE FOR A CONTINUAL DAILY USAGE OF 6 HOURS FOR RESIDENTIAL APPLICATIONS AND A CONTINUAL DAILY USAGE OF 12 HOURS FOR COMMERCIAL AND INDUSTRIAL APPLICATIONS. ALL PRODUCTS MUST BE THOROUGHLY CLEANED ON A REGULAR BASIS AT INTERVALS THAT REFLECT IN THE INSTALLATION ENVIRONMENT, ENSURING THE OPTICAL PERFORMANCE, TOGETHER WITH THE ELECTRICAL, MECHANICAL AND STRUCTURAL INTEGRITY AS DESIGNED, IS MAINTAINED THROUGHOUT THE SERVICE LIFE OF THE PRODUCT.



1. PRODUCT SPECIFICATION:

	RAPTOR 4/3/2 240V	RAPTOR 4/3/2 415V	BRITELINE 2/1 240V	BRITELINE 2/1 415V
Type of Protection	Class I	Class I	Class I	Class I
IP Rating	Built in IP20 or IP65	Built in IP20 or IP65	Built in IP20 or IP65	Built in IP20 or IP65
Nominal Voltage/Frequency	240V / 50Hz	415V / 50Hz	240V / 50Hz	415V / 50Hz
Power Factor	>0.95	>0.95	>0.95	>0.95
Circuit Wattage	1265W	1265W	1420W	1420W
Line Current	5.4A @ 240V	3.2A @ 415V	6.1 @ 240V	3.5A @ 415V
Inrush Current	59A peak duration 5ms at 50% of peak @ 230V (24A RMS ½ cycle)	42.5A peak duration 5ms at 50% of peak @ 400V (17.3A RMS ½ cycle)	59A peak duration 5ms at 50% of peak @ 230V (24A RMS ½ cycle)	42.5A peak duration 5ms at 50% of peak @ 400V (17.3A RMS ½ cycle)
Leakage Current	<0.2mA			
Important – when installing electronic or HID lighting equipment, the installer must consider the in-rush current (if any) as documented on the control gear identification label when selecting appropriate circuit controls or protective devices.				
Dimming Protocol	Step Dim 50% using PSU Accessories. Refer p3, Note 2 and PSU specifications.			
Ambient Temperature (Maximum)	BUILT IN 65°C / IP65 50°C	BUILT IN 65°C / IP65 50°C	BUILT IN 65°C / IP65 50°C	BUILT IN 65°C / IP65 50°C
Suitable for direct mounting on flammable surfaces (indoor product only)	NO	NO	NO	NO
Installation type	Fixed Installation Only			

2. APPROVALS: The RCM marking of this product applies to AS/NZS CISPR15 (EMC) "Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment". This product is designed to conform to AS/NZS 61347.2.13 Lamp control gear Particular requirements for d.c. or a.c. supplied electronic control gear for LED modules and AS/NZS 61347.1:2016 Lamp control gear – Part 1: General and safety requirements.



3. STORAGE: Prior to installation products are to be stored in cool and dry conditions.

4. APPLICATION: The installation application and orientation of the product is designed in accordance with the nominated product IP rating, class designation and these installation instructions. Installation environments and operating conditions beyond these instructions are not recommended.

5. INSTALLATION / GENERAL: Installation of the product is to be completed by an authorised and licensed electrician, in accordance with these instructions, relevant Australia standards and local regulations (where applicable). Termination of product wiring, together with the installation of the product must be in a manner and orientation that maintains the integrity of the designated IP rating. Where the product includes solid state or electronic components (such as LED lighting), the **INSULATION RESISTANCE TEST SHOULD BE CARRIED OUT IN ACCORDANCE WITH AS/NZS3000 & TEST VOLTAGE TO BE REDUCED TO 250V DC IN WHICH CASE THE INSULATION RESISTANCE SHOULD NOT BE LESS THAN 1MΩ. Exceeding 250V DC may damage the product and void warranty.**

6. INSTALLATION / SPECIAL CONDITIONS (relevant only for products approved for such an installation):

(a) products installed in high wind environments must have suitable installation / fastening methods applied to ensure the product's mounting points are not damaged through, corrosion, constant vibration and or movement. Exterior products are designed with precise vertical aiming limits, which should not be exceeded. Any vertical floodlight aiming requirements should be specifically validated in writing with the relevant brand before consideration.

(b) products installed in corrosive or salt laden environments require special consideration and such; specific product selection, inclusive of suitable fastening methods and extensive ongoing maintenance of products installed in these environments require professional advice. It is essential that all aspects of the product selection, material specification and maintenance are specifically designed for such use and a cleaning program be adopted that maintains the design integrity of the product.

(c) interior highbay products must be vertically suspended. The method of suspension (chain etc) must be able to support at least 5 times the total weight of the fitting. Do not install where air movement will cause the fitting to swing about, causing wear and tear of attachment points. Luminaires should be installed where access for maintenance is practical and allows for maintenance to be completed in accordance with the manufacturer's recommendations.

7. MAINTENANCE: (a) The supply must be isolated before opening or accessing the luminaire. Product maintenance is IMPORTANT and is critical to the products designed performance. The product is to be maintained in accordance with the manufacturer's instructions. For the latest product maintenance guides please go to relevant brand web site. Sylvania Schröder is not responsible for any product not maintained in accordance with the recommended procedure or intervals. **(b) lamps (where provided):** The product is designed with the supplied (LEDs) / LAMP/s and it is strongly recommended that any LAMP / (LEDs) changes (if any) be made in accordance with the type, colour and brand supplied. For recommended LAMP / LED maintenance or operating guides (inclusive of recommended product switch cycles and mandatory run-in procedures for HID and Fluorescent lamps when used with dimming circuits), Sylvania Schröder recommends the application of the lamp manufacturer's operating guidelines, which can be found on manufacturer's website. Sylvania Schröder is not responsible for the product performance of alternative lamp/s used. As a member of FluroCycle, we encourage recycling of lamps and components. **(c) for products supplied with glass visors or covers,** do not operate the product with a damaged visor or cover, it is recommended the product be turned off, area surrounding the product vacated and the damaged glass replaced by a professional installer immediately. **(d) for products supplied NEMA bases** do not install &/or operate without PE cell or Smart Node or Shorting cap installed.

8. WARRANTY INSTRUCTIONS: For the purpose of warranty claims (if any) the following instructions apply:

Warranty components – THE PRODUCT, (identified as HYB1ST240V, HYB1ST415V, HYB1ST240VIP65, HYB1ST415VIP65 only). **Warranty period** - The above components are provided with a warranty of FIVE (5) year/s or 20,000 hours of operation (which ever arrives first) against manufacturing defects or failure to perform to specifications for products installed by an authorised installer in accordance with the manufacturer's installation instructions and which have not been subject to incorrect operation or maintenance, unauthorised modification or damage arising from any intervening cause.

Warranty reference - The warranty reference date commences from the date of purchase.

Warranty point of contact – Schröder Australia Pty Ltd, Bldg 4A, Parklands Estate, 21-23 South Street NSW 2116, phone T 1300 489 780 contact – Sylvania Schröder After Sales Support.

Warranty claim procedure – For the purpose of making a claim the customer must:

1. Contact the "point of contact" above and upon provision of proof of purchase the customer will receive a goods return advice (GRA) number. 2. At the customer's expense, collect and return the goods to the "point of contact" with the issued GRA number. 3. Upon receipt of the goods, Sylvania Schröder will review the claim and if found to be accepted, Sylvania Schröder will return a replacement product to the customer to install at the customer's expense. Alternatively, if the claim is rejected, the customer may request the return of the goods at their expense. **Consumer Contracts** - The benefits to the customer given by the Sylvania Schröder warranty are in addition to other rights and remedies of the customer if the goods are the subject of a Consumer Contract under the Australian Consumer Law. In that event the following statement is required to be brought to the Consumer's attention: - *Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.* **Limitation of Liability** – if the goods are not purchased by the customer under a Consumer Contract within the Australian Consumer Law then but not otherwise:- (a) the Company is not liable in tort for any loss or damage suffered by the customer or by any third party; and (b) in no circumstances is Sylvania Schröder liable to the customer or to any third party for any loss of profits, loss of anticipated savings, economic loss or interruption of business or for any indirect or consequential loss (Consequential Loss). **Terms of Sale** – these Warranty provisions are in substitution for any inconsistent provisions in the Sylvania Schröder Terms and Conditions of Sale in so far as

they apply to the Warranty component.

Inrush Current

Codes: HYB1ST240V, HYB1ST415V, HYB1ST240VIP65, HYB1ST415VIP65

240V (Nominal Mains) I peak = 59A Duration @ 50% of peak 5ms

415V (Nominal Mains) I peak = 42.5A Duration @ 50% of peak 5ms

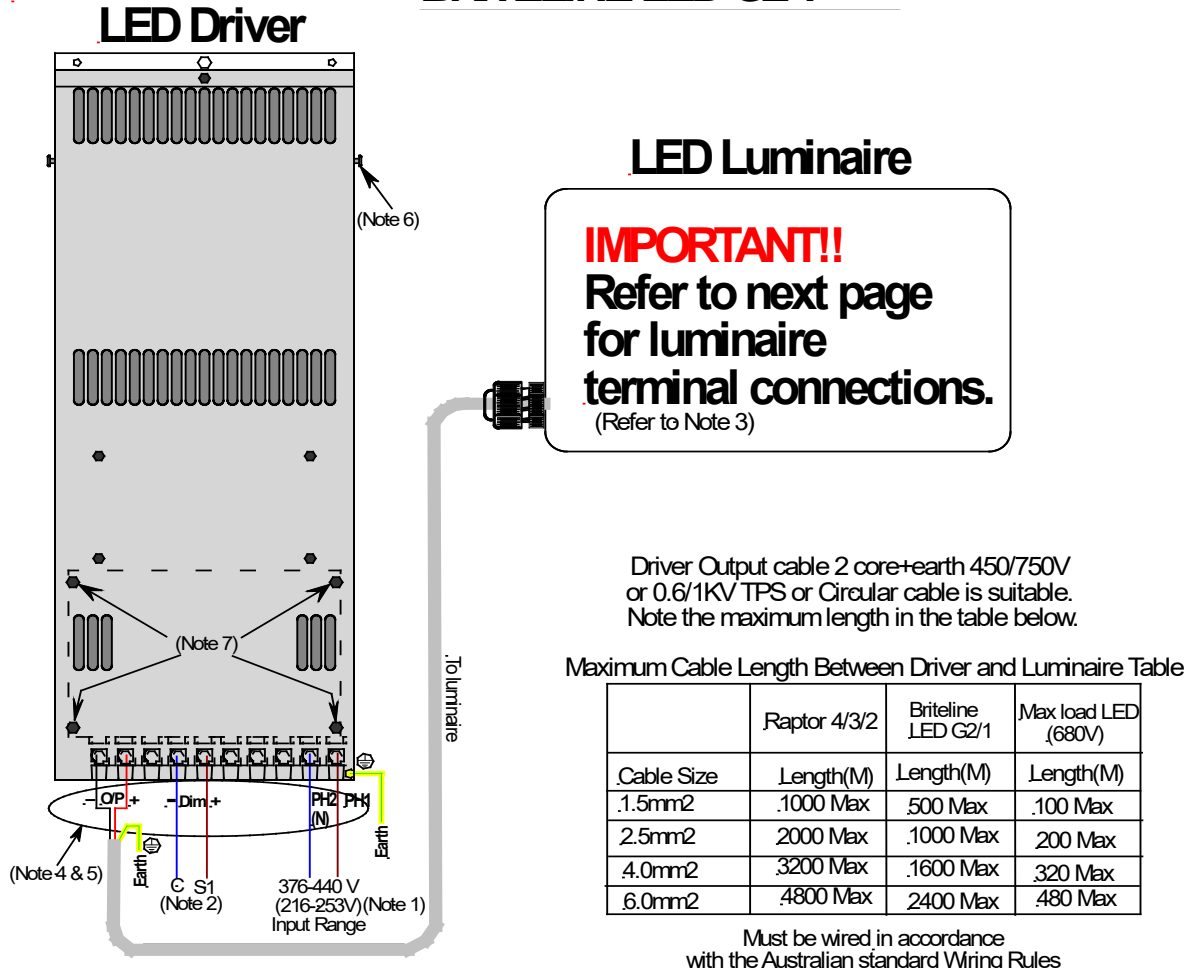
Earth Leakage Current - 0.2mA per unit

Breaker Recommendations

	240V DRIVER		415V DRIVER	
MCB Rating (A)	1 pole		2 Pole	
	Quantity Type C	Quantity Type D	Quantity Type C	Quantity D Type
16	1	1	1	3
20	1	2	2	3
25	2	2	2	4
32	2	3	3	6
40	3	4	4	7

<p>Maintenance and Repair</p>	<p>The Drivers are not user repairable. Under no circumstances should any covers on the IP20 driver be removed to access internal components. For IP65 drivers, only the single M8 latch bolt on the main enclosure should be loosened to access the main terminal block. The small diecast box on top of the IP65 driver should not be opened and has tamper proof seals over the lid screw heads. If covers are removed performance could be adversely affected and warranty may be voided. If checking and testing is required, it should only be undertaken by suitably qualified persons and under guidance from Sylvania Schröder technical staff. Fault finding information is available on request. The main supply should be isolated and locked out before accessing terminals or performing any work near the driver terminations. Although the drivers have various shutdown and protection systems, there may be a residual voltage at the output terminals for a period of time after the main supply has been isolated or after open circuit protection has been activated (less than 50V within 1 minute). The voltage at the output terminals should always be checked and if necessary, allow further time to decay before working on the driver terminations.</p>
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Wiring Diagram for RAPTOR 4/3/2 and SPORTSLINE 1200W and BRITELINE LED G2/1



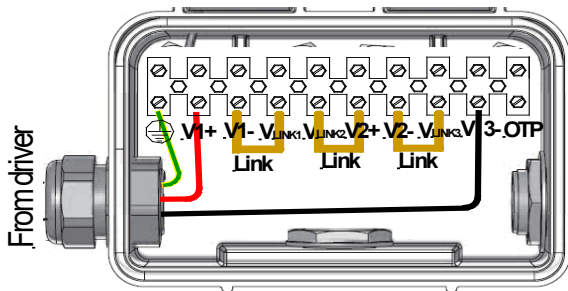
Notes 1: 376-440 V : For 415V Driver
216-253 V : For 240V Driver

- 2: Dim cable must be sheathed and be rated for the same or higher voltage as the supply cables. The dim signal requirement at the drivers dim terminals is a maximum current draw of 3mA and be within a voltage range of 9 to 13.2Vdc.
- 3: The luminaire terminal box must be wired as per the appropriate wiring diagram in the installation instructions to match the luminaire being used. Each luminaire that the Hybrid Driver can be used with requires a luminaire specific wiring arrangement. Three link wires are supplied with each driver however the number of links used depends on the luminaire wiring requirement. Incorrect wiring may cause damage to driver and/or luminaire. If a two wire Hybrid driver is being used with luminaires that were previously wired to drivers that required additional wires, consult Schreder for guidance.
- 4: To maintain optimum surge withstand capability, the input, output and dim cables ideally should be segregated as much as possible. A distance of even 10mm is adequate. If multiple drivers are located in the same pole or cabinet, it is acceptable to cable tie or group all of the outputs together but separated from the inputs which also can be grouped. Secure cables to terminal block mounting bracket on BUILT-IN model.
- 5: Secure cables to terminal block mounting bracket on BUILT-IN model.
- 6: Lift points on BUILT-IN drivers are to be used as an aid to installation not permanent suspension. Use only appropriately rated lifting attachments. Do not lift driver over personnel or body parts.
- 7: Din rail may be attached using four off M5 screws. Do not cover vent slots.

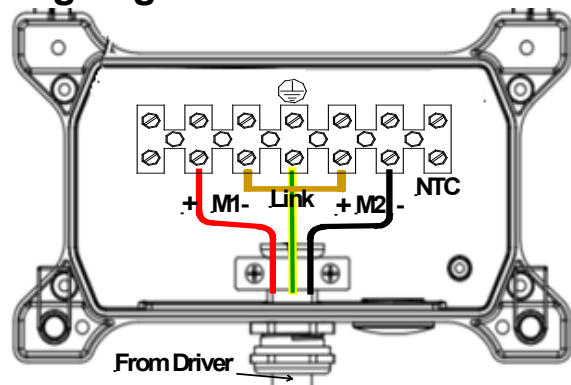
Luminaire Terminal Connections

LED luminaires operate with DC current and are polarity sensitive. The below wiring diagrams ensure that individual LED luminaire modules are connected in series and are connected to the driver in the correct polarity. If the polarity is reversed and/or the modules are wired in parallel damage to driver and/or luminaire can occur.

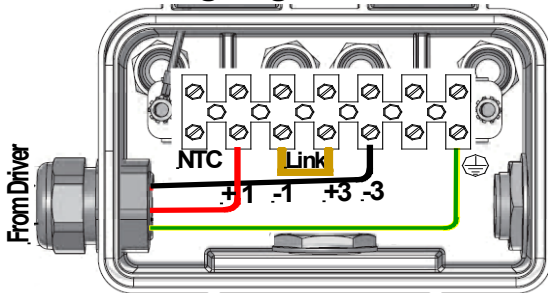
Wiring Diagram for RAPTOR 4



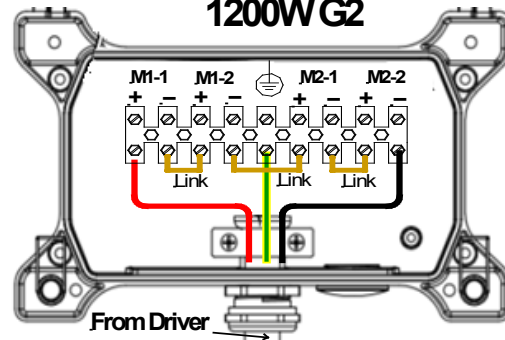
Wiring Diagram for BRITELINE G2/1 LED



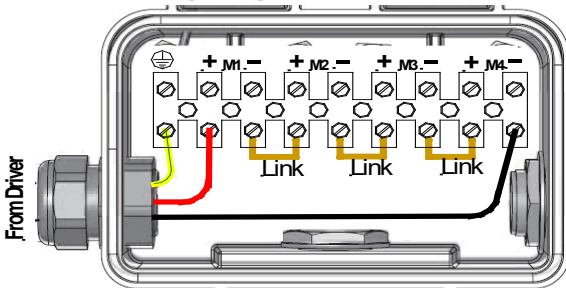
Wiring Diagram for RAPTOR 3



Wiring Diagram for SPORTSLINE 1200W G2

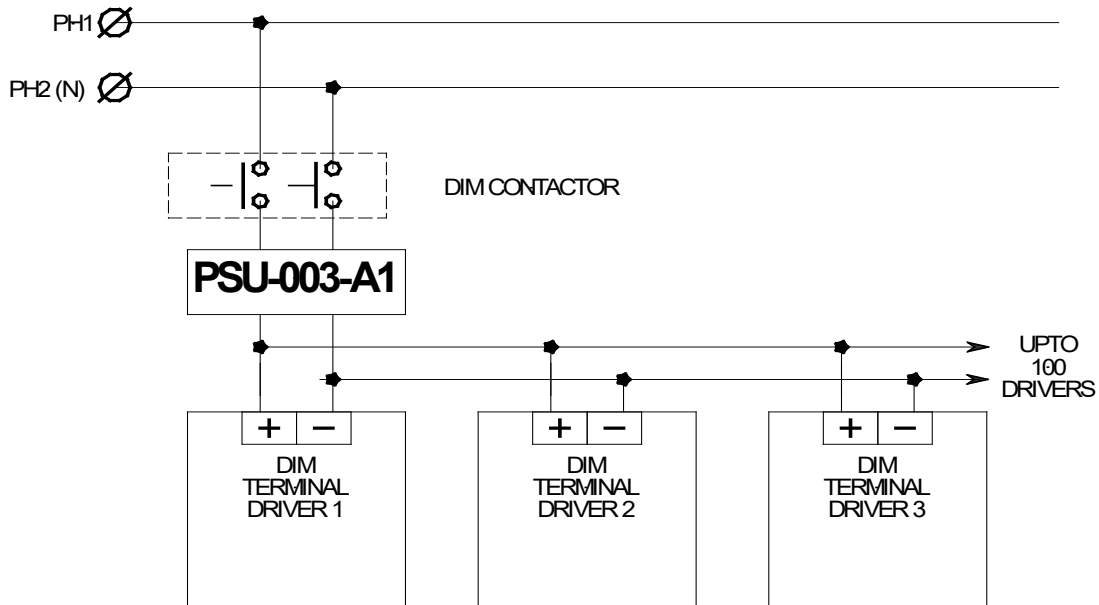


Wiring Diagram for RAPTOR 2

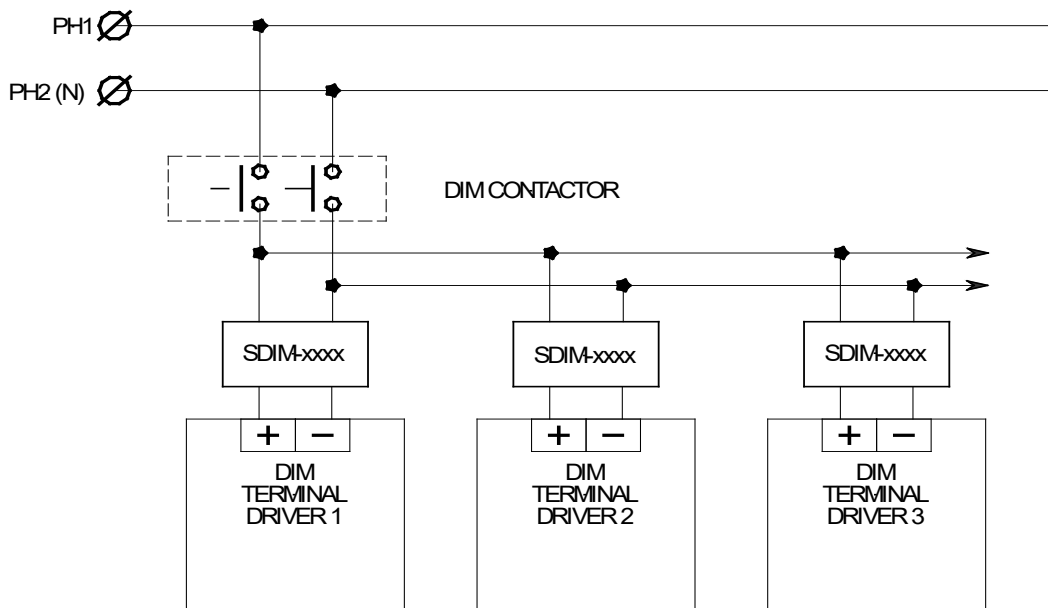


Alternative DIM Signal Wiring Arrangements

- 1) Using PSU-003-A1 (Input 100/430 Vac, Output 12Vdc)
Refer to DAT07291 for further details

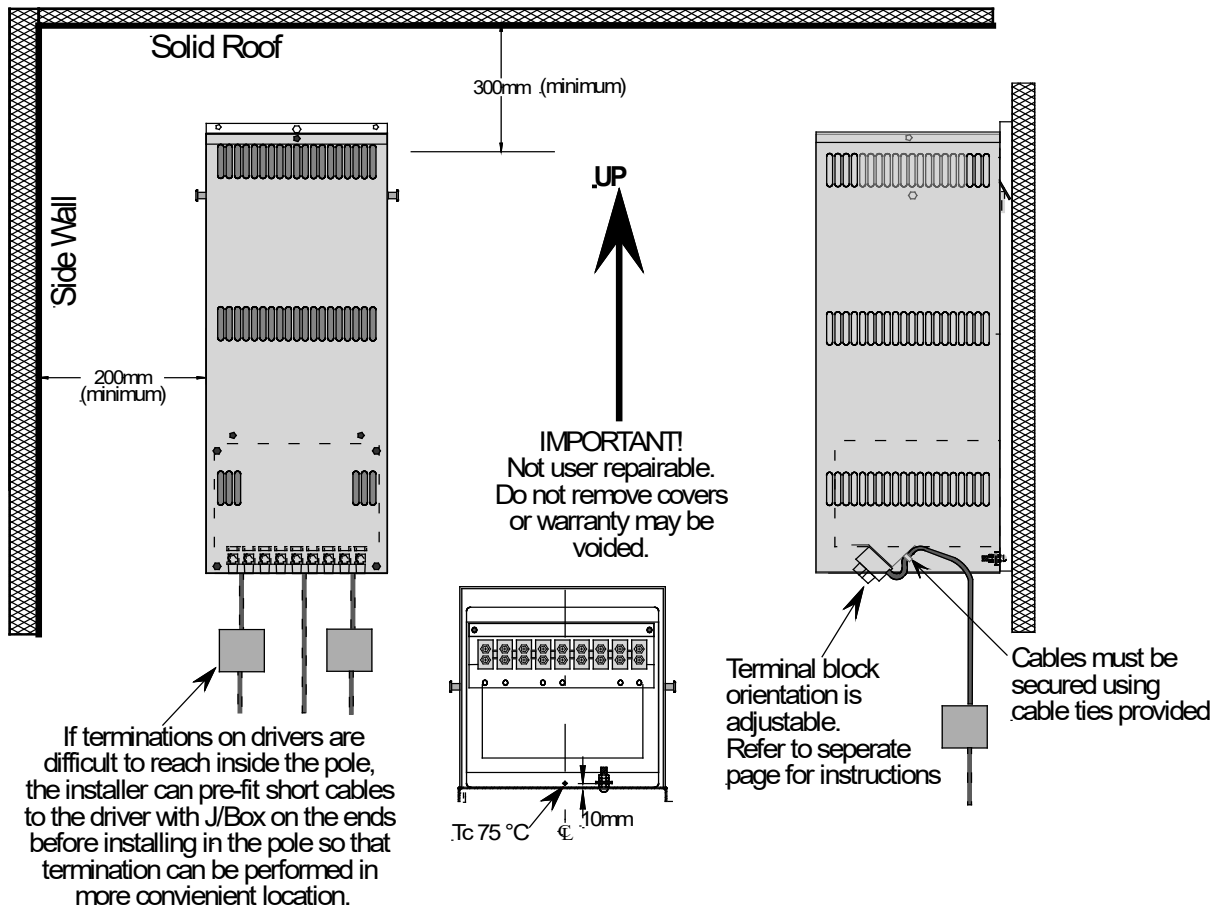


- 2) Using SDIM-230-A1 for DIM signal 220V - 250V or SDIM-400-A1 for Dim Signal 380-430V
Refer to DAT07290 for further details



Mounting Instructions for BUILT-IN Drivers in Confined Space

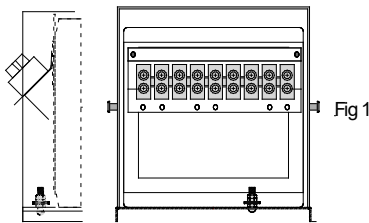
Both HORIZONTAL and VERTICAL mounting is acceptable. If condensation is likely to occur, vertical mounting is preferred. When vertically mounting, the cable termination must always be at the bottom. When mounting the driver indoors use the below diagram as a guide for minimum spacing. There are further guidelines in the preceding detailed Installation Instructions. Importantly these instructions are a guide only and the installer must ensure there is adequate airflow so that the "ta" rating stated in this specification is not exceeded. Refer to drawing below for "tc" location. To maintain optimum surge withstand capability, the input, output and dim cables ideally should be segregated as much as possible. A distance of even 10mm is adequate. If multiple drivers are located in the same pole or cabinet, it is acceptable to cable tie or group all of the outputs together but separated from the inputs which also can be grouped. See dimensions and mounting bracket details on following pages.



BUILT-IN DRIVER TERMINAL BLOCK ORIENTATION ADJUSTMENT

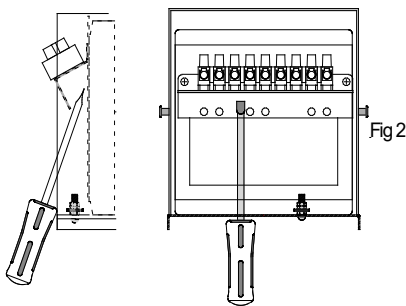
The terminal block on the BUILT-IN driver is able to be adjusted to a desired orientation by simply bending its mounting bracket. This adjustment should be ideally done before inserting the BUILT-IN driver in the pole. If cables are long enough, they can be terminated to the driver outside the pole. Make sure to secure the cables by inserting the cable ties provided through the holes in the end panel and then tighten around cables.

1. As supplied, terminals are flat against panel



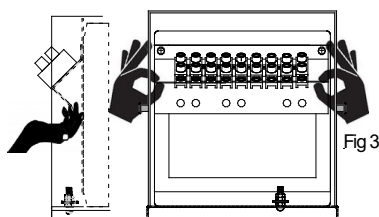
As supplied, the terminals sit flat against the end panel (0°) which is ideal for horizontal mounting in cabinet racks. See Fig 1.

2. Wedge & Lift with Screw driver



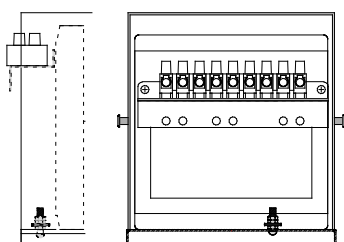
To change the orientation simply wedge a screw driver between the bracket and panel and lever upwards a small amount. See Fig 2.

3. Complete adjustment using both hands



Once lifted a small amount, the final positioning can be done by gripping the bracket at the ends using both hands and pushing firmly upward. See Fig 3.

4. Final position, any angle to a maximum $\perp 90^\circ$



If mounting in a pole the driver must be hung vertically with terminals at the bottom and in this case, it may be most suitable to orient them at 90° to the end panel or at some other position between 0° and 90°. See Fig 4.

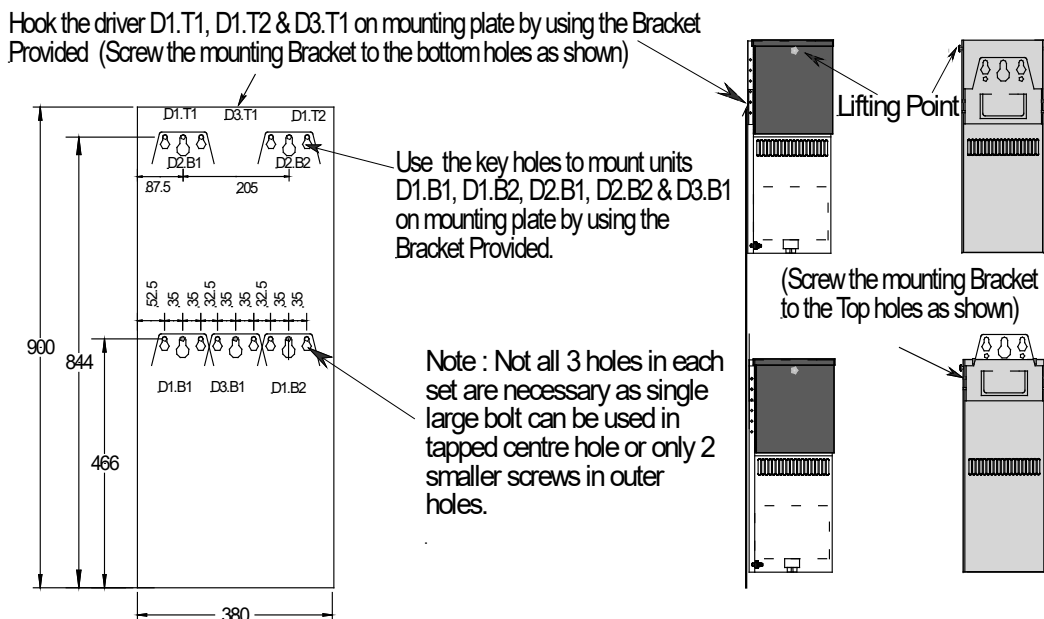
POLE MOUNTING BUILT-IN DRIVER

Following are guidelines and typical pole layout drawings that may be used when mounting the BUILT-IN drivers in poles. As there are many variations in pole design, please consult supplier for further information if the recommended spacing between drivers or any other guidelines cannot be achieved.

1. When mounting BUILT-IN drivers in poles they must be mounted vertically with the terminations at the bottom.
2. The space between the black lid of a lower driver and the termination on the bottom of a driver mounted above is to be at least 200mm.
3. The space between adjacent drivers side by side should be a minimum of 25mm but ideally 50mm.
4. The driver is supplied with a universal bracket which can be positioned in two locations along the edge of the driver on the underside of the black section. The bracket can be oriented so that keyhole slots are visible above the black lid or the bracket can be turned 180° and then used to hook over the top edge of a panel or strap. When mounting in poles with a typical 900*380mm flat panel, the drivers that are to be hanging down below the bottom edge of the door will have the bracket oriented so that the keyhole slots protrude above the black lid and suitable self-threading screws can be used through the keyholes. Drivers that are to be mounted above the top of the door will have the mounting bracket oriented so that it is used to hook over the top edge of the panel and screws can then be used to rigidly fix to the panel. Typically when using the keyholes for lower drivers the brackets will be positioned on the upper most position on the tray and for driver intended to be hanging on the panel above the door, the bracket will be positioned on the lowest position.
5. Panels can be pre-drilled and fitted with self-threading screws prior to positioning the drivers in the pole. A typical panel drilling layout is shown below; however the installer should check the layout suitability based on the pole type used.
6. The two off M5 lift screws on either side of the black section can be used as aids to installation for attaching rope, chain, hooks for lifting. These lift points are not for permanent mounting. Never lift driver over personal or any part of the body.
7. Drivers that are lowered down below the door opening can have short lengths of cable (0.8-1.0m) pre-terminated so that they can be easily connected to a termination point in an accessible area near the centre of the door opening.
8. There are 4 off M5 screws in the lid of the driver that may be used to mount DIN rail. The DIN rail can be mounted horizontally on a single driver or it can straddle two drivers. If DIN rail is mounted vertically ensures that it does not protrude too far toward the black cover on a lower driver as the black area is the hottest part and low temperature components such as TPS/PVC cables should be at least 20mm away from it.

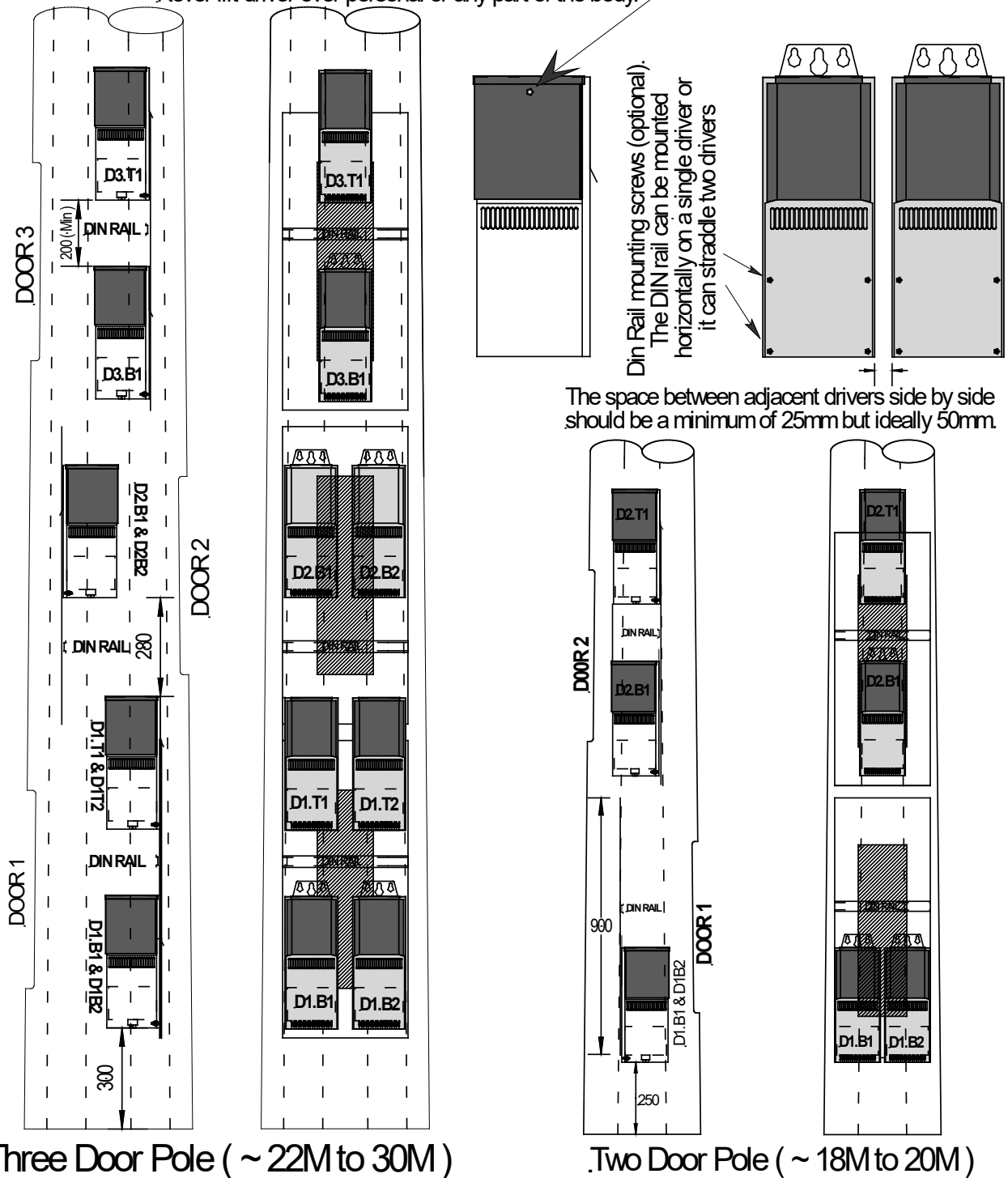
Mounting plate drilling position for panel 380 x 900

Driver Position Code: Driver through Door 1 (D1), Driver on Bottom (B) & Driver on Top (T). (Eg. First bottom driver through door 1: D1.B1)



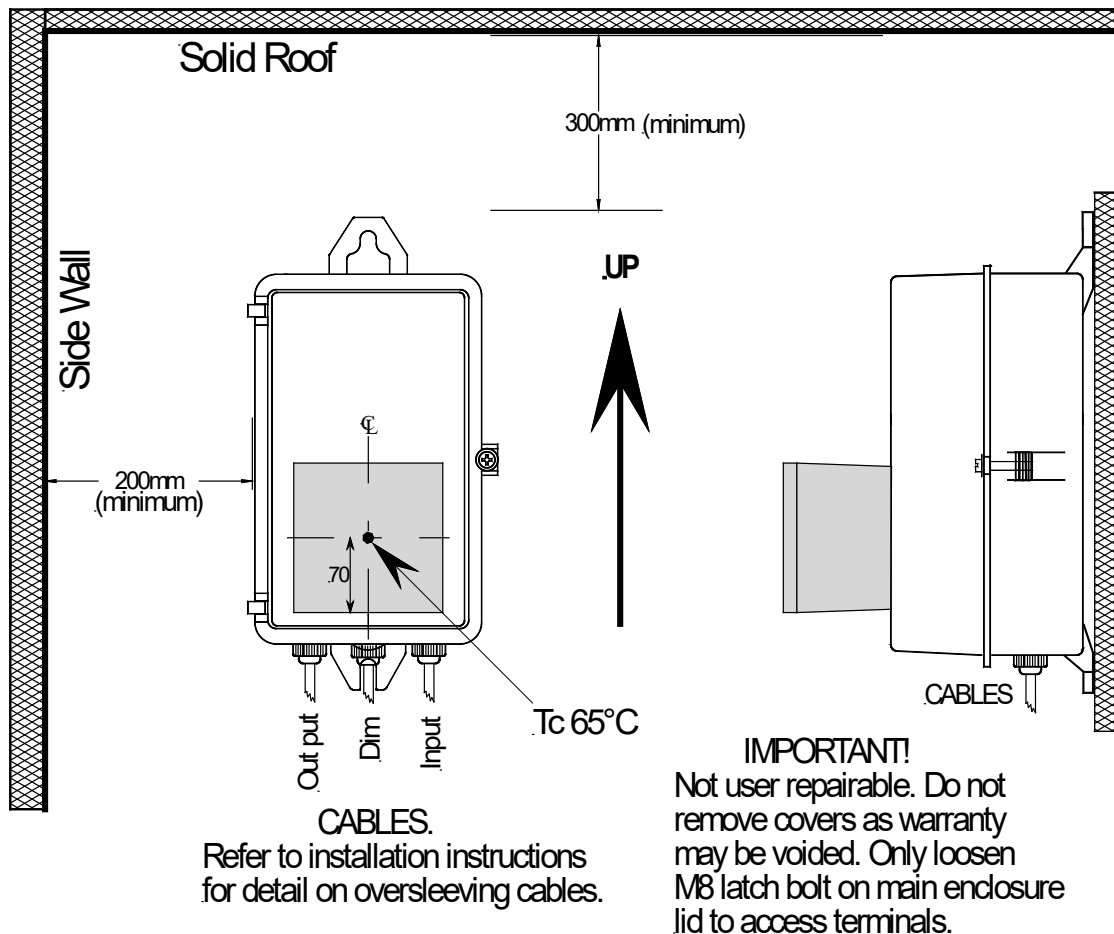
Typical Pole Mounting Layouts

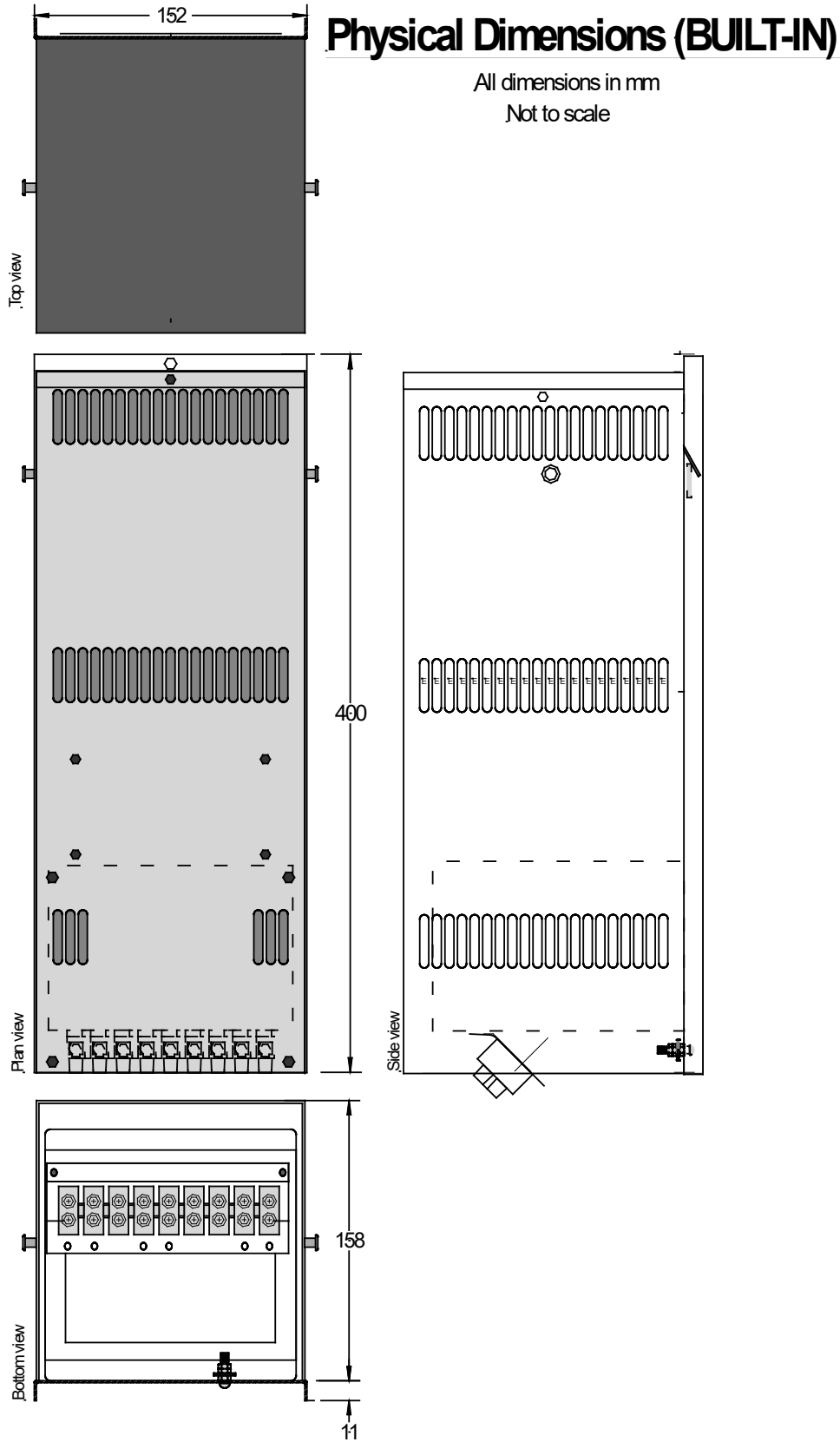
The two off M5 lift screws on either side of the black section can be used as aids to installation for attaching rope, chain, hooks for lifting. These lift points are not for permanent mounting. Never lift driver over personal or any part of the body.



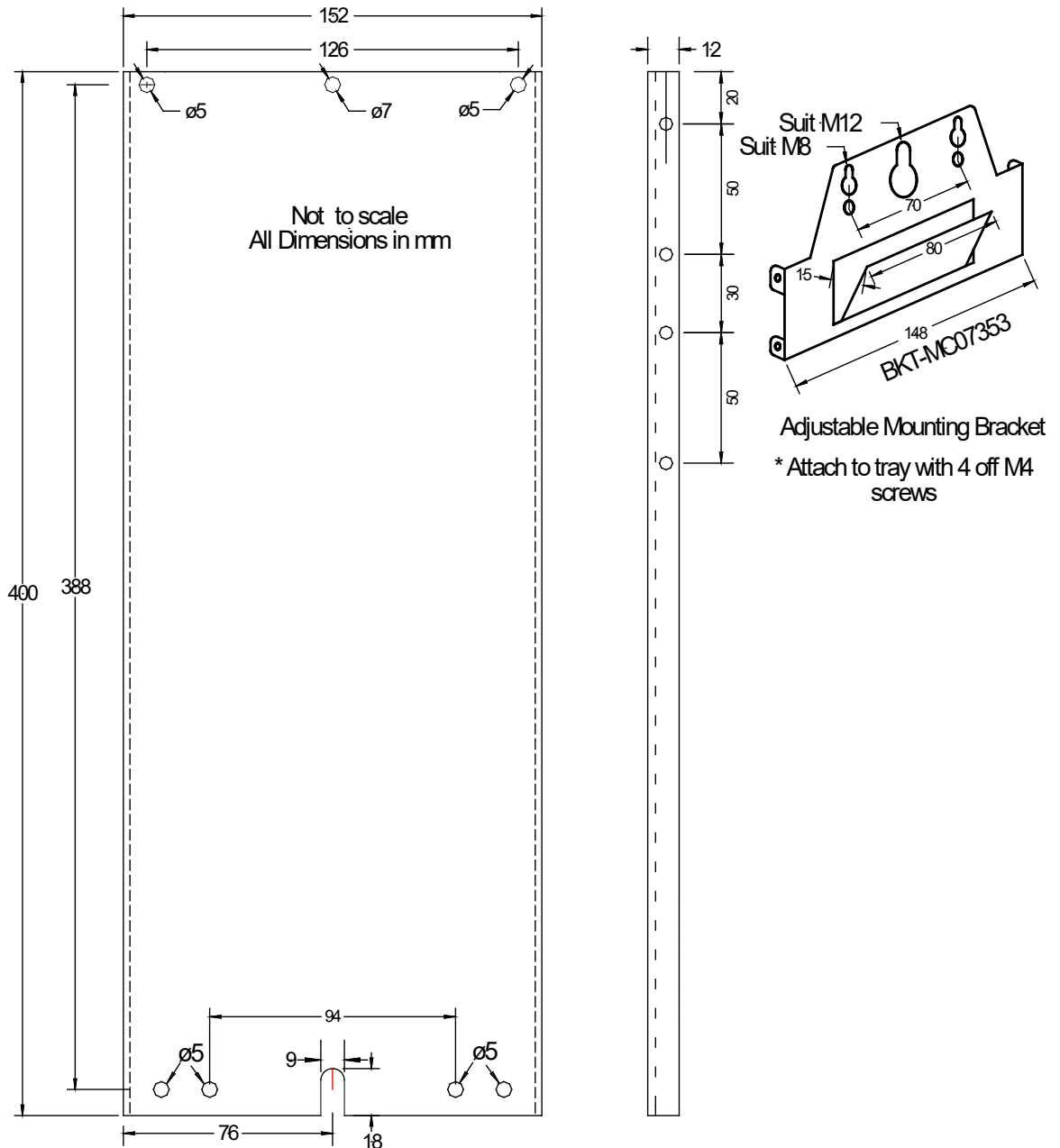
Mounting Instructions for IP65 Drivers

The IP65 driver is designed for outdoor applications in open air. If it is used indoors it is important to ensure adequate airflow around the driver so that the localised ambient does not significantly increase. The diagram below gives guidance for the minimum distance from walls and ceiling. If grouping drivers, the installer must ensure spacing between each driver horizontally of at least 200mm and vertically 300mm. Importantly the spacing information provided here is only a guide and it is the installers responsibility to check that the localised ambient does not exceed the "ta" rating in these specifications. In both outdoor and indoor applications the IP65 drivers must be mounted vertically with the cable entries at the bottom. Suitable IP rated cable glands or conduit glands must be used to maintain the driver IP rating. Refer to drawing below for "tc" location. Use the sleeving supplied with the driver to over sleeve individual low temperature cables from entry gland to the terminal block.





Mounting Dimensions for (BUILT-IN Tray)



* Note: The mounting bracket, BKT-MC07353, can be attached in various locations to the side flanges of the tray using the 4 off M4 screws provided. The bracket can be used to hang the tray on a cross bar using the pushed out tab or it can be reversed and positioned to provide keyhole mounting beyond the end of the tray. The tab can be flattened if keyhole mounting is used. The installer is responsible to determine the suitability of the bracket for the application taking into account safety factors.

Physical Dimensions (IP65)

