



DC01 DATA COLLECTOR



OPERATION & MAINTENANCE MANUAL

Doc. Ref. MNDC01 REV. 2

reliability ° efficiency ° performance

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'Caution, Risk of Electric Shock' Please isolate elsewhere before opening Monitor door.



Please read this manual before installing or servicing the equipment.

Table of contents

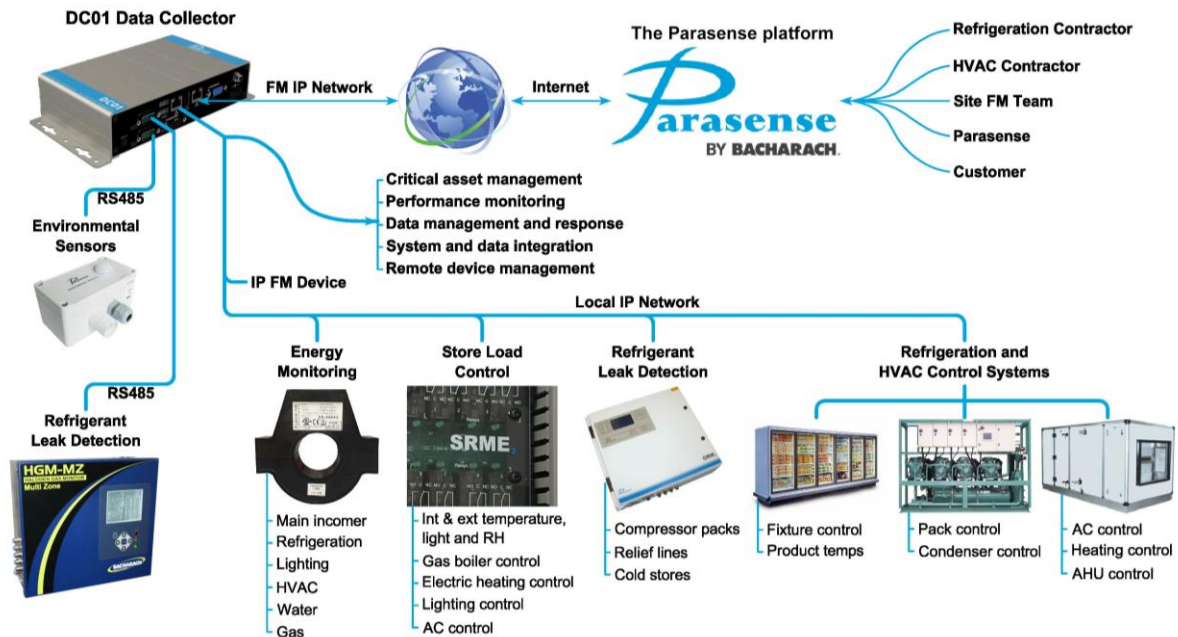
1 INTRODUCTION.....	1-1
INFRASTRUCTURE OVERVIEW	1-1
DIMENSIONS.....	1-1
2 INSTALLATION GUIDE	2-1
WALL MOUNT BRACKET DIMENSIONS AND FITTING GUIDE.....	2-1
MAINS POWER REQUIREMENTS	2-2
COMMUNICATIONS CONNECTIONS	2-3
ENVIRONMENTAL SENSORS (OPTIONAL).....	2-5
OVERALL CONNECTIONS DIAGRAM.....	2-8
3 SERVICE & MAINTENANCE	3-1
4 SPECIFICATION	4-1
5 APPENDIX	5-1
ETHERNET CABLE DETAIL	5-1

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draft3: 03 rd April 2018	Product name changed to DC01. Modifications in line with JB comments 20 th March 2018	JB
1-0: 5 th April 2018	First release.	JB
5 March 2020	Update addresses	JH

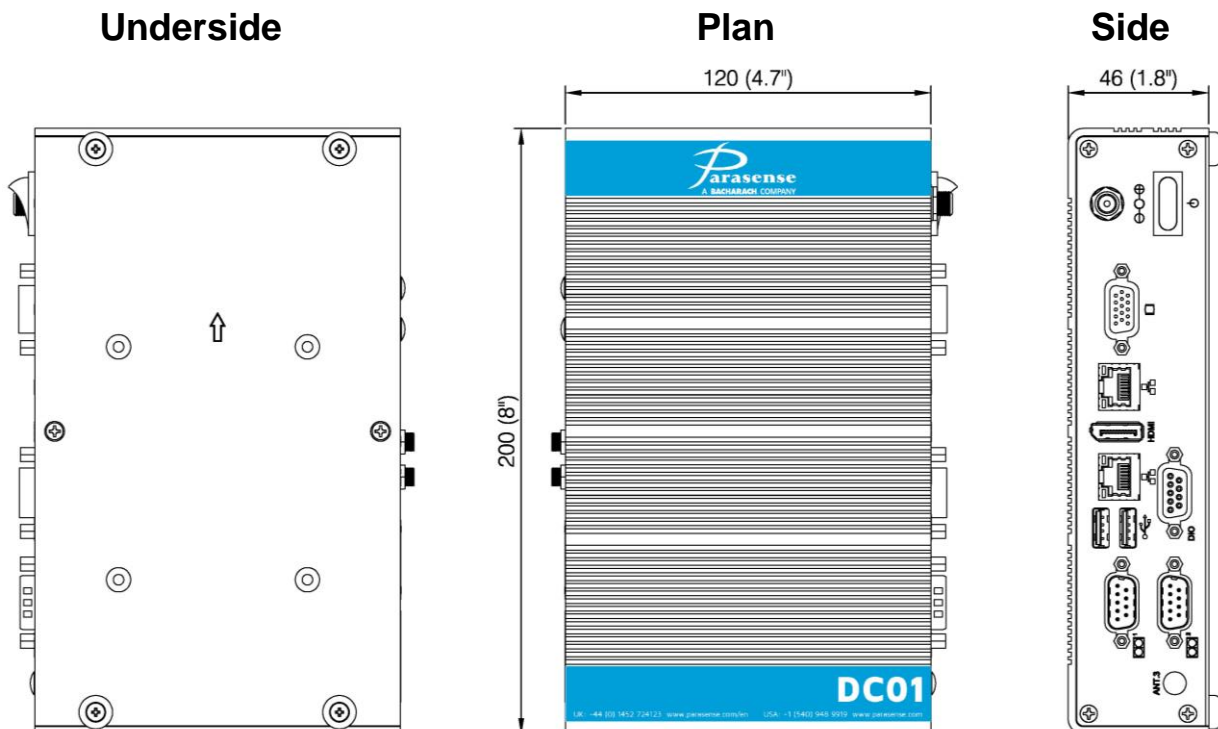
1 INTRODUCTION

The DC01 is a centralised site integration platform connecting and managing data from multiple devices or systems using open IP communication protocols, via a secure dual Ethernet system. It also gives the opportunity to take advantage of Parasense VQAM alerting and analytics solutions helping to optimise performance, reduce energy usage and improve carbon footprint.

INFRASTRUCTURE OVERVIEW



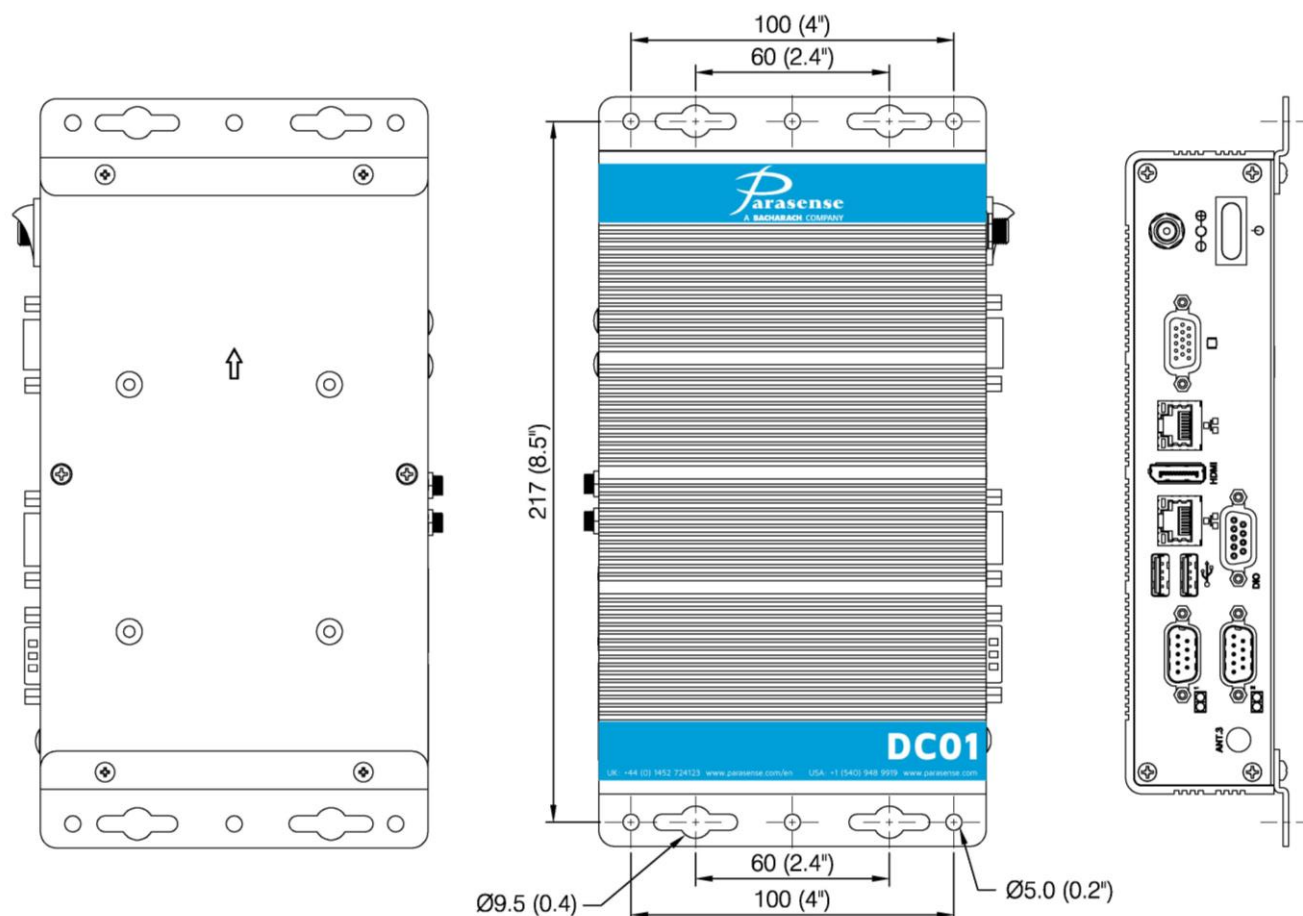
DIMENSIONS



2 INSTALLATION GUIDE

Important: All installation and maintenance work must be carried out by suitably qualified personnel only. All wiring must be carried out in accordance with latest NEC, CEC or IEC requirements and current local regulations.

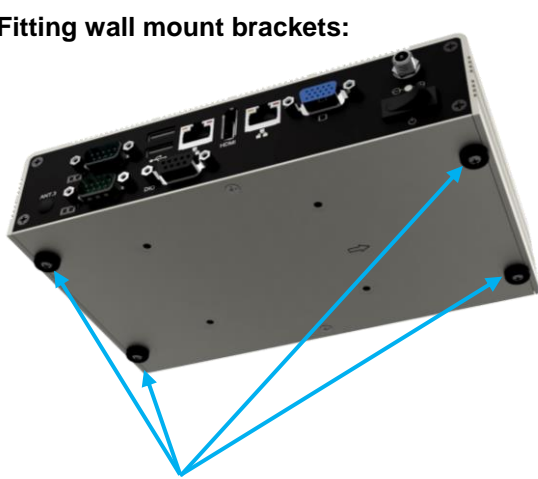
WALL MOUNT BRACKET DIMENSIONS AND FITTING GUIDE



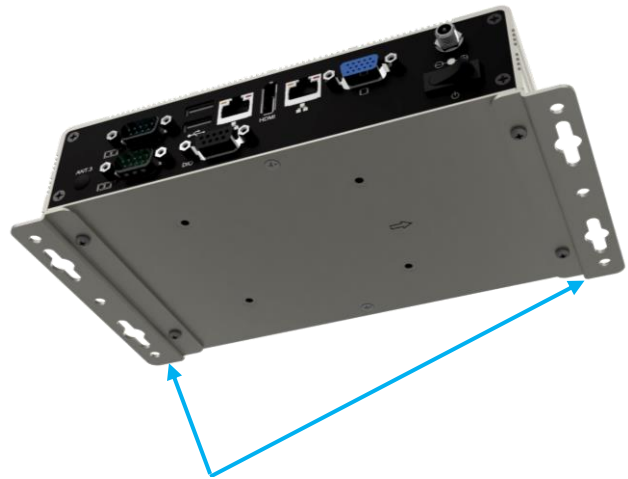
DC01 Fitting Guide

1. The DC01 must be mounted to a solid vertical surface or structure capable of supporting its weight of **1.1kg (2.4lb)**.
2. Two fixing brackets are supplied with the monitor, along with fixing screws. Remove the rubber feet from the base of the DC01 and replace with the fixing brackets as shown in the pictures on the following page.
3. Wall fixings must be suitable for the structure the DC01 is being attached to and capable of supporting the stated weight.
4. The DC01 must be installed in the orientation shown above, and with the arrow on the underside facing upwards.

Fitting wall mount brackets:



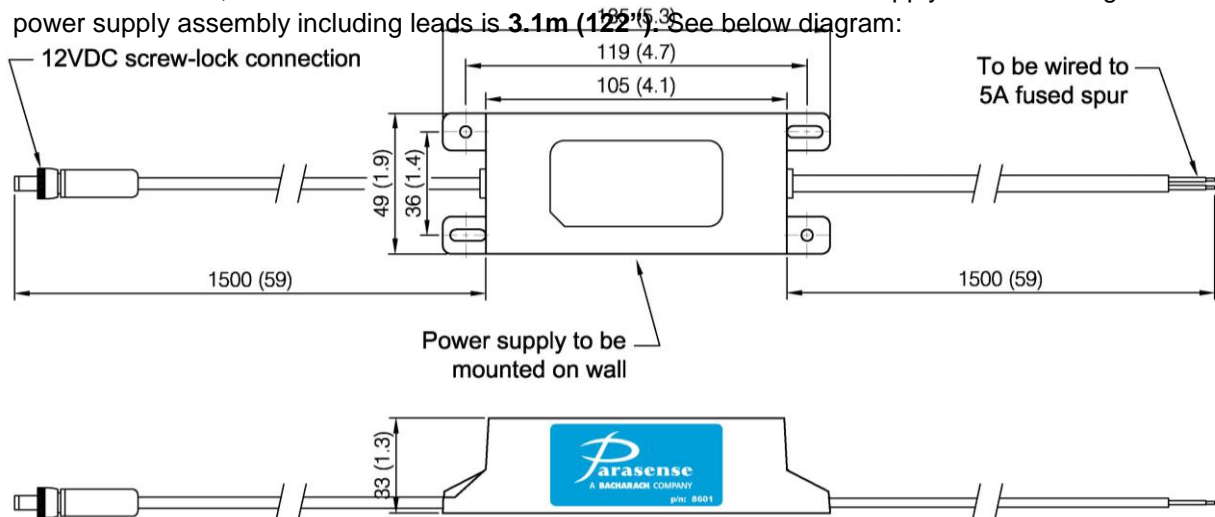
Unscrew and remove
4 rubber feet



Fit fixing brackets as shown using
screws provided

MAINS POWER REQUIREMENTS

The DC01 requires a 5A single phase mains supply in the range 100-240V AC protected by a fuse or circuit breaker. It is supplied with a power supply assembly with a 12V DC screw-lock connection one side for the DC01, and a mains lead the other side for connection to the supply. The total length of the power supply assembly including leads is **3.1m (122')**. See below diagram:



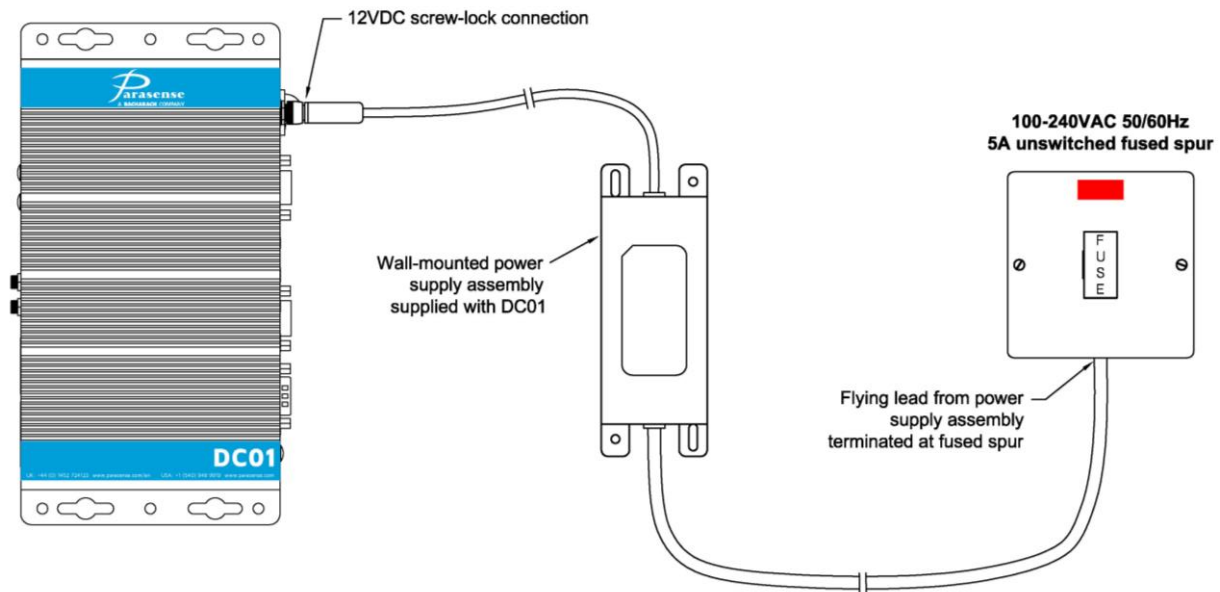
The 12V DC connection is shown on the below picture:



12V DC power
connection

The DC01 is designed to be permanently on.
To prevent accidental powering down
the power switch is disabled

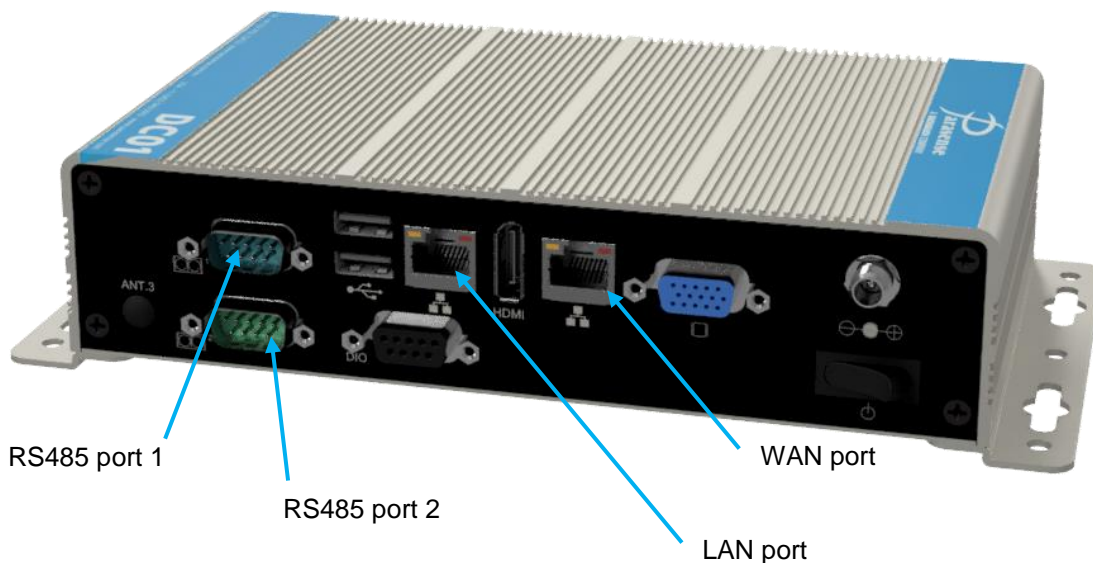
The DC01 must be positioned sufficiently close to the mains supply that the power supply assembly can be correctly and safely installed. The layout should be as follows:



COMMUNICATIONS CONNECTIONS

Ethernet and RS485 Connection Locations:

The DC01 makes use of two Ethernet ports and two RS485 ports shown as follows:



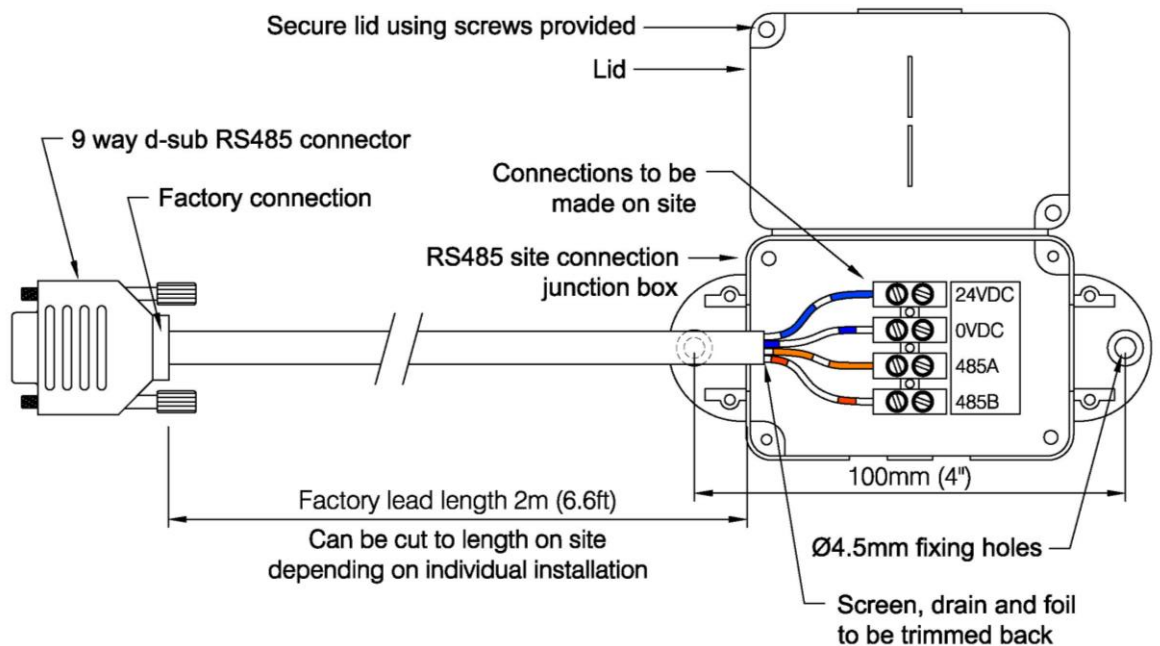
RS485 Cable Specifications and Maximum Length:

The following cables are approved for the site RS485 cabling installation with options 1 and 2 being preferred:

1. **Signal/Power** – Lapp Kabel Unitronic Li2YCY 0031320
2. **Signal/Power** – FS Cable 2402POHPH
3. **Signal** – Belden 1588A. **Power** – Belden 8461

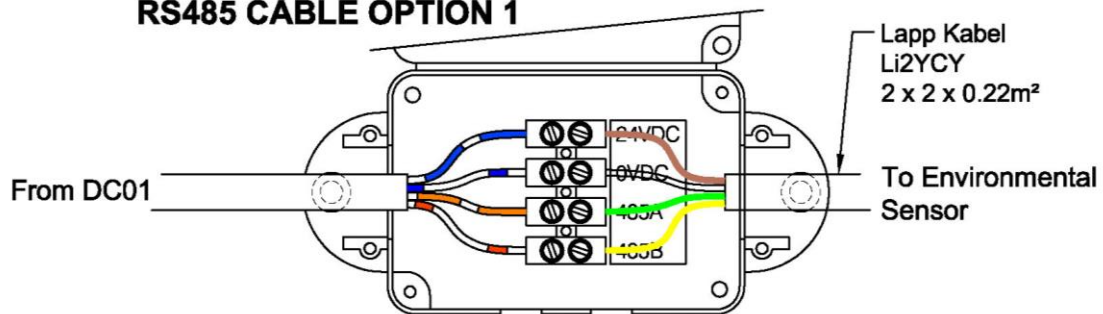
The maximum distance from each RS485 port of the DC01 to the furthest RS485 module is 100 metres (328ft).

The DC01 can be supplied with up to two RS485 wiring looms and site connection boxes to facilitate site connections. See below diagram:

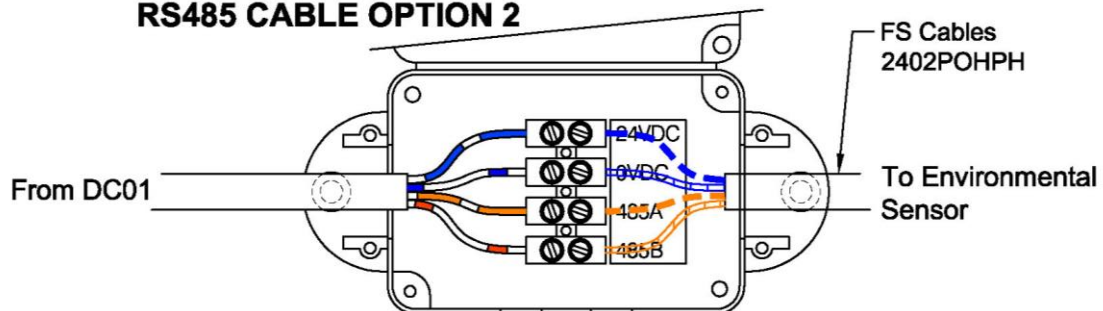


Wiring to the environmental sensors from the site connection box should be made as follows:

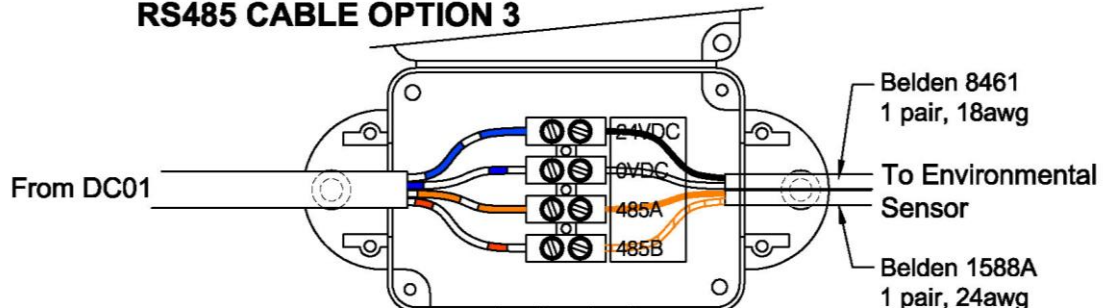
RS485 CABLE OPTION 1



RS485 CABLE OPTION 2



RS485 CABLE OPTION 3



ENVIRONMENTAL SENSORS (OPTIONAL)

Environmental sensors can be installed to monitor light, temperature and relative humidity. Multiple sensors can be connected via one of the RS485 networks.

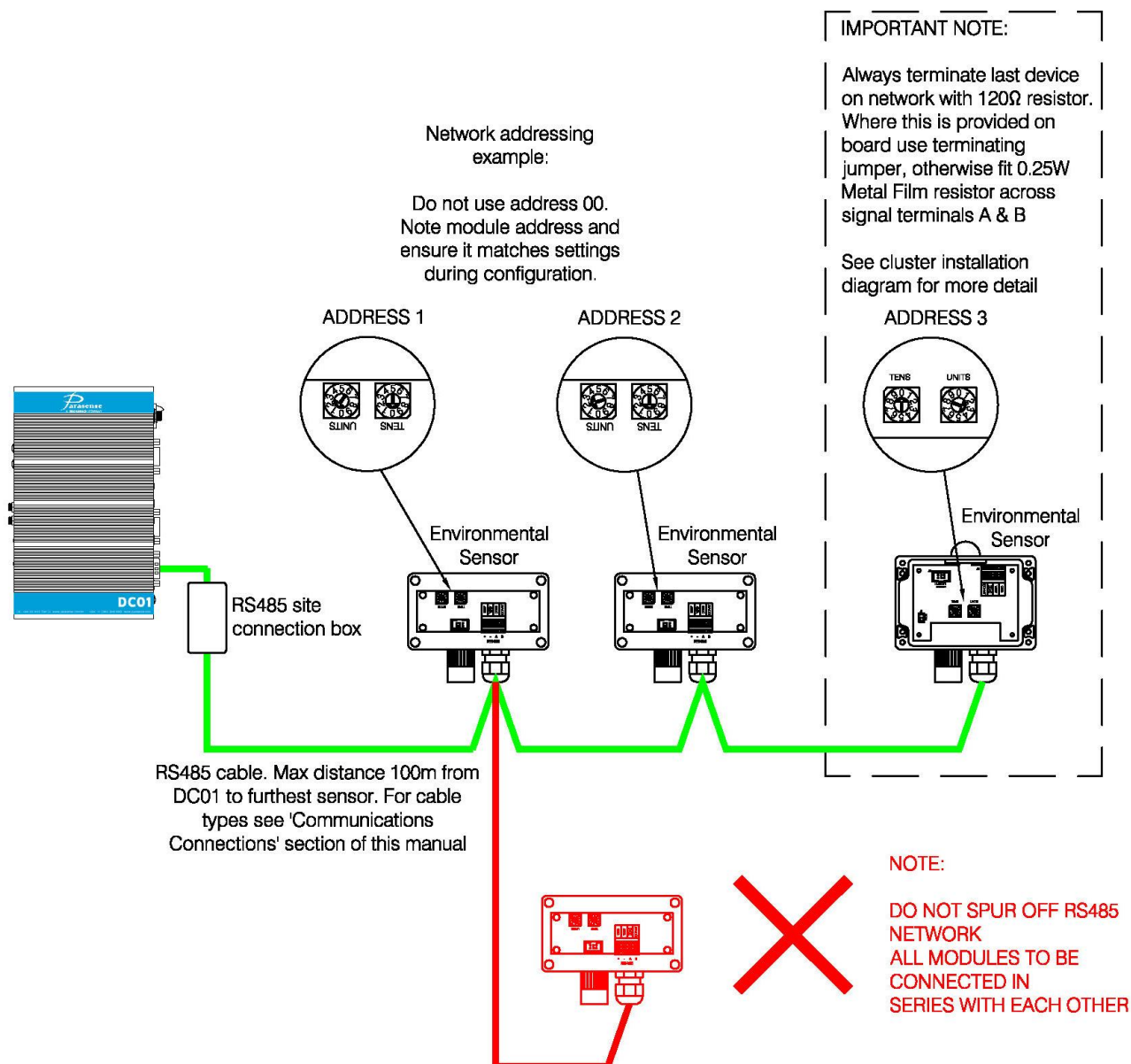


External Temperature / Humidity Sensor (RSTHL105)



Internal Temperature / Humidity Sensor (RSTHL104)

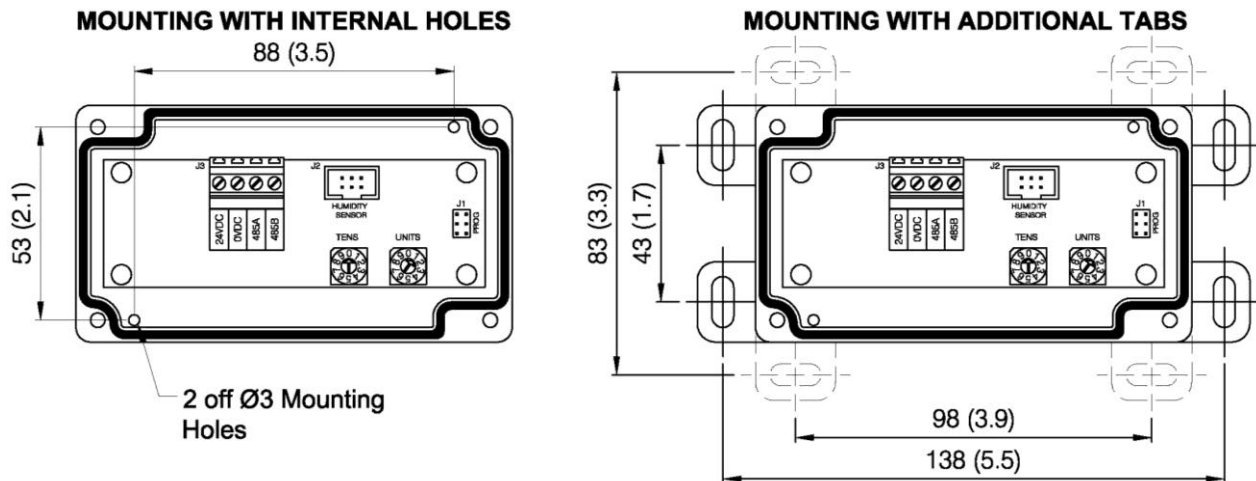
Environmental Sensor General Installation Notes:



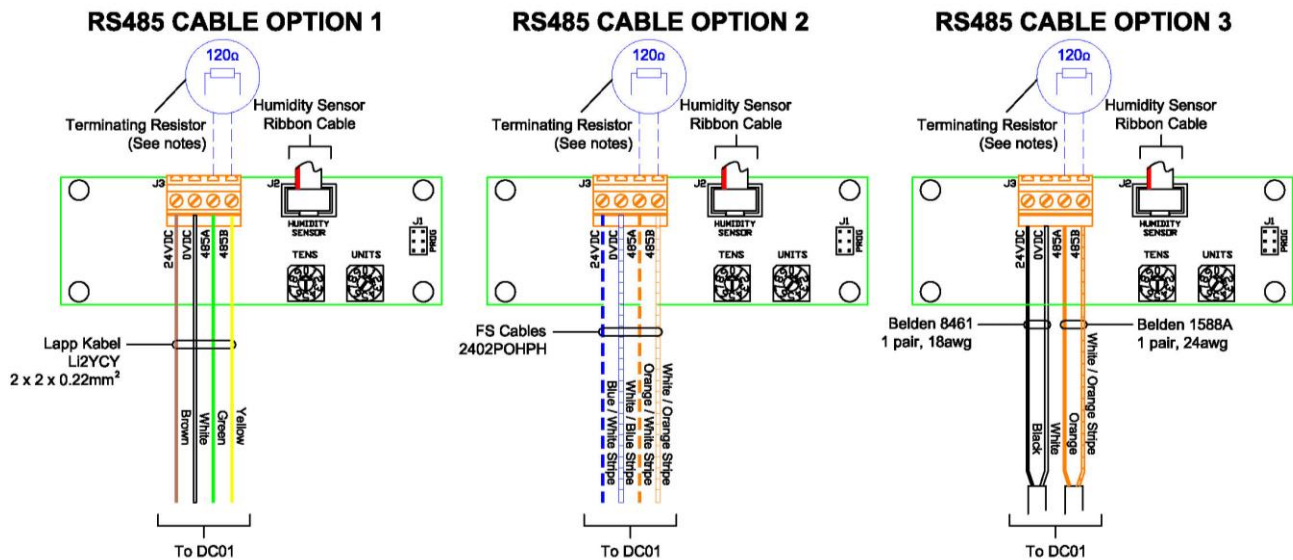
RSTHL104 (Internal) Installation Instructions

Locate the internal sensor approximately 2.5 to 3.0 metres above the floor. The sensor should not be mounted on an external wall or near a heat source. It must be mounted to a solid vertical surface capable of supporting its weight.

The sensor can be mounted as follows using the internal holes or with the additional mounting tabs supplied:



Wiring connections within the RSTHL104 sensors should be made as follows:



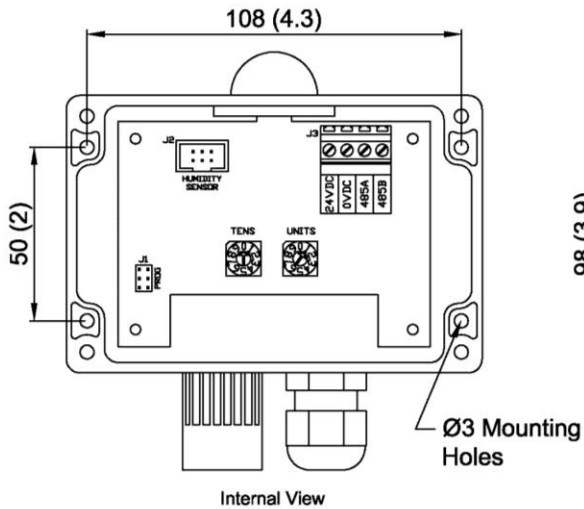
RSTHL105 (External) Installation Instructions

In order to ensure maximum accuracy from temperature and humidity readings, it is essential that the external sensor is installed in a location that is:

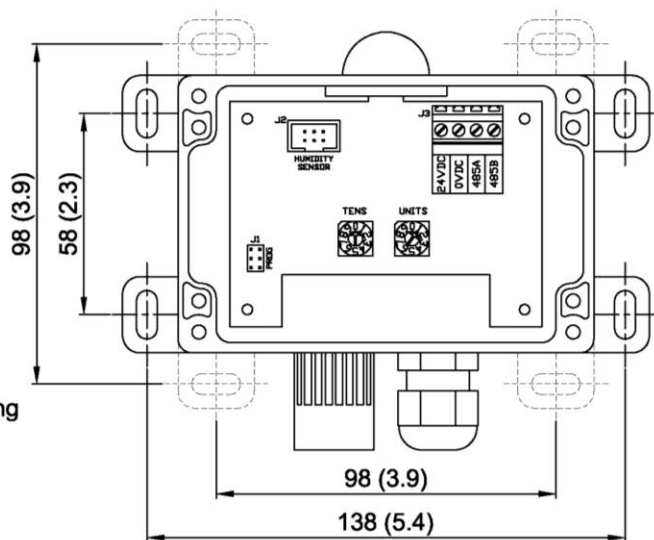
1. Shaded from direct sunlight all day, preferably on a north-facing wall.
2. Well ventilated to avoid heat build-up.
3. Away from potential heat sources such as condensers, ventilation ducts, AHUs etc.
4. Away from reflective surfaces.
5. At least 2 metres above the surface.

The sensor can be mounted as follows using the internal holes or with the additional mounting tabs supplied:

MOUNTING WITH INTERNAL HOLES

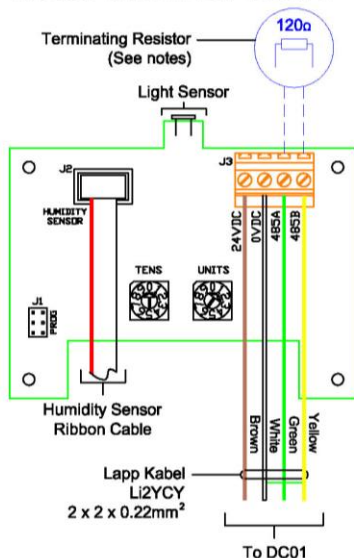


MOUNTING WITH ADDITIONAL TABS

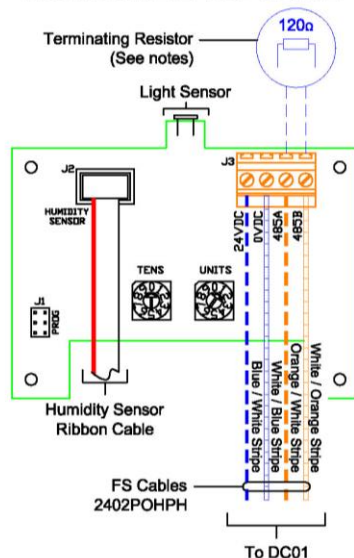


Wiring connections within the RSTHL105 sensor should be made as follows:

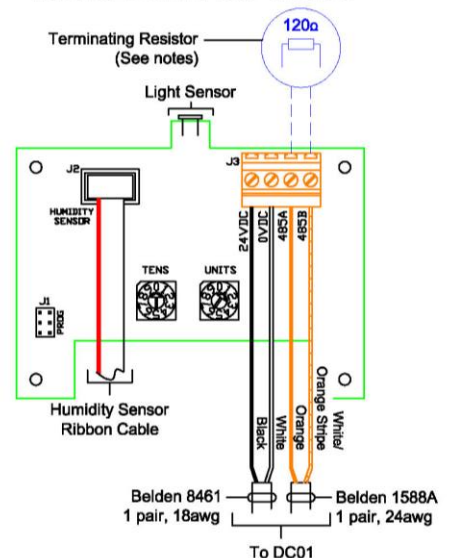
RS485 CABLE OPTION 1



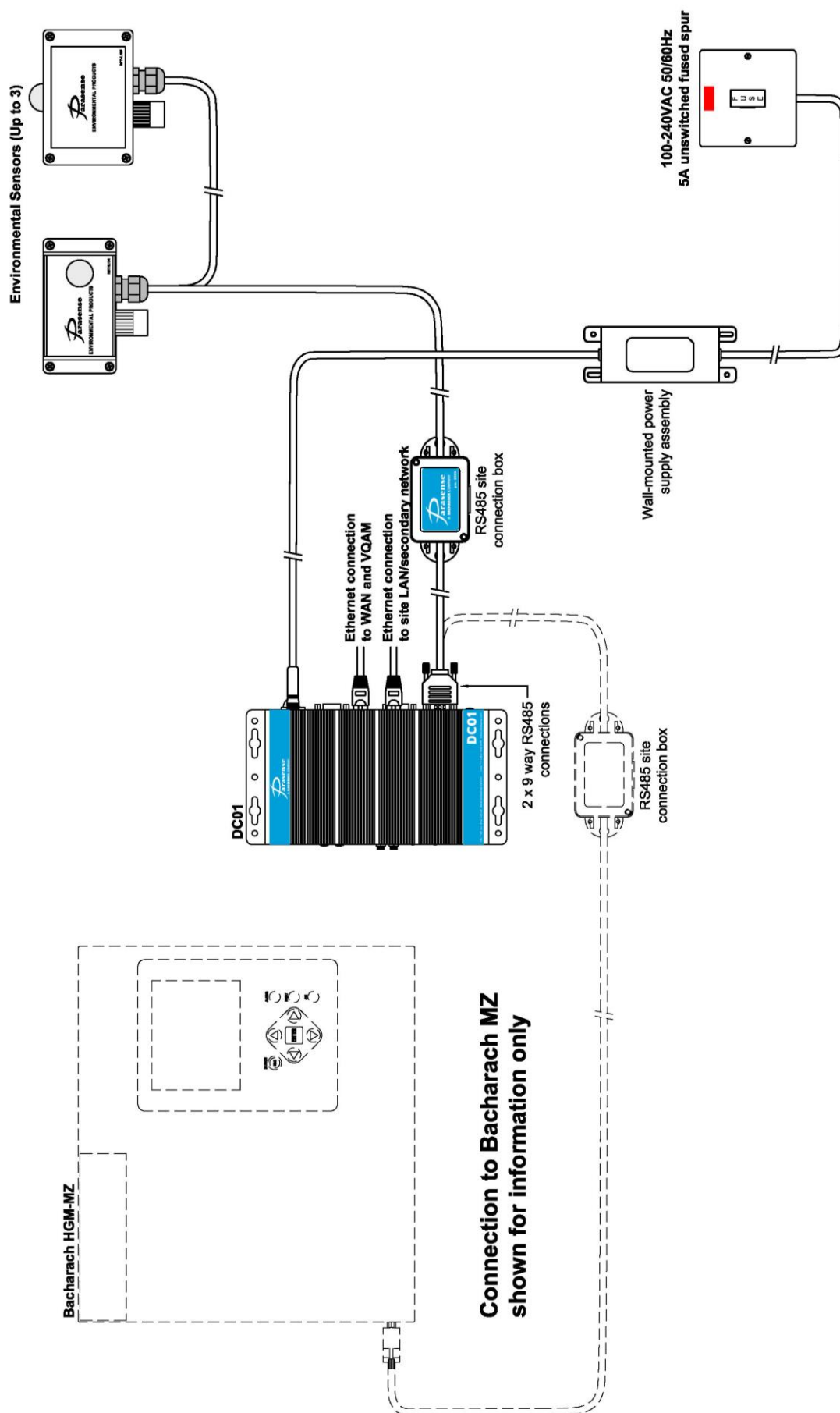
RS485 CABLE OPTION 2



RS485 CABLE OPTION 3



OVERALL CONNECTIONS DIAGRAM



3 SERVICE & MAINTENANCE

Parasense warrants the DC01 for a period of one year from the date of purchase against defects in materials and workmanship. This warranty will not apply to defects resulting from the non-compliance with this manual, over-voltage, physical abuse, ingress of water or tampering with individual items. Use of equipment in a manner not specified by the manufacturer may impair the protection afforded by the equipment.

Parasense offers a wide range of service and maintenance contracts, remote access software and management reporting packages. Details and cost of service exchange units can be obtained from Parasense or their approved distributor.

4 SPECIFICATION

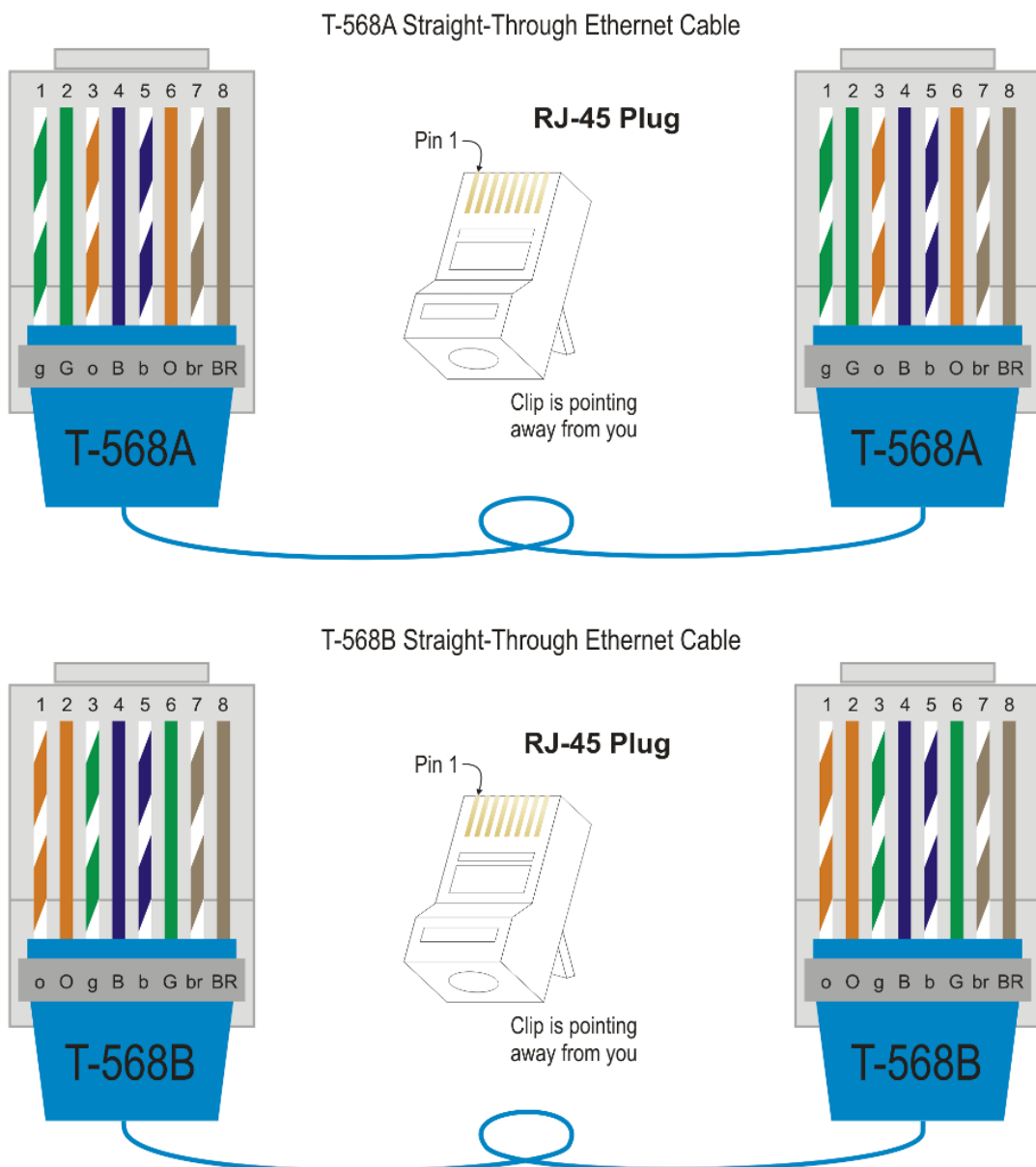
DC01	
Supply Requirement	100-240VAC, 50/60Hz
Ethernet	2 x 10/100/1000Mbps RJ45 sockets
USB	4 x USB2.0, Type A sockets
RS485 Networks	2 x D-Sub connectors, 9 way Network power: 12V DC max 650mA
Operating Conditions	Operating temperature: 0°C to 50°C (32°F to 123°F) Storage temperature: -23°C to 65°C (-9°F to 150°F) Relative Humidity: 10 to 95% RH (non-condensing) Indoor Use Only
System Indication	1 x green LED for system power-on 1 x amber LED for HDD active
Vibration Endurance	3 Grms (5-500Hz, X, Y, Y directions)
Approvals	CE
Standards of Conformity	EN 55032:2012 / AC:2013 Class A EN 61000-3-2 : 2014 EN 61000-3-3 : 2013 EN 55024:2010+A1 : 2015 IEC 61000-4-2 / IEC 61000-4-3:2006+A12007+A2:2010 IEC 61000-4-4:2012 / IEC 61000-4-5:2014 / IEC 61000-4-6:2013 IEC 61000-4-8:2009 / IEC 61000-4-11:2004 EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013

5 APPENDIX

ETHERNET CABLE DETAIL

The information listed here is to assist Network Administrators in the colour coding of Ethernet cables. Please be aware that modifying Ethernet cables improperly may cause loss of network connectivity. Two wiring styles are available for straight-through connections.

The T-568A standard is supposed to be used in new network installations. Most off-the-shelf Ethernet cables are still of the T-568B standard. It makes no functional difference which you choose.





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