

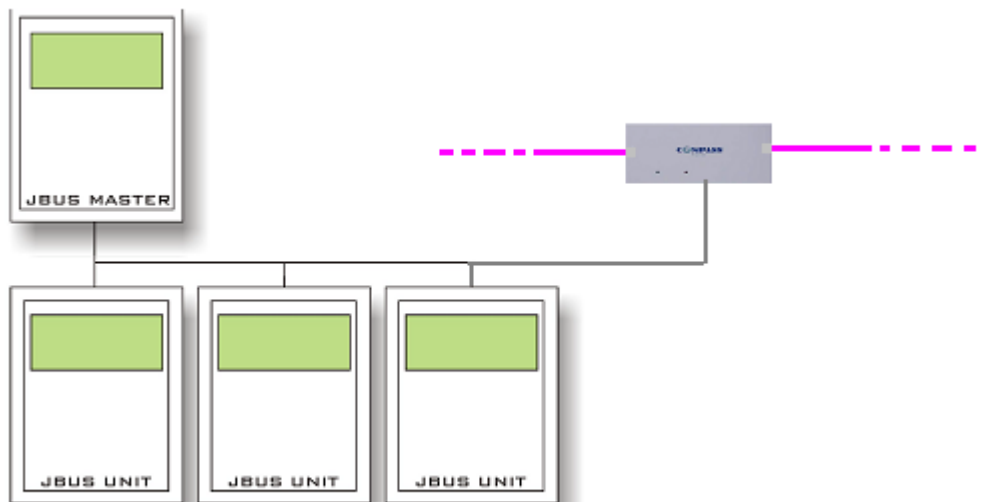
# Product Engineering Guide

## Compass v22 JDevMax v12 MRTC

### Introduction

The JDevMax Compass Point provides a gateway from systems supporting the standard J-Bus or Modbus protocol to the Compass Network. The Compass Point is a J-Bus device containing 1000 registers, which may be accessed by a J-Bus/Modbus master device. The JDevMax Compass Point does not allow values to be read from or written to a J-Bus device, for this the JBUS interface should be used.

Each register contains a destination object. If specified, the register will write its value to this object when it changes.



### Supported Range

- The JDevMax Compass Point communicates with any system supporting the J-Bus or Modbus protocol in either binary (RTU) or ASCII mode.

### Notes

The device supports a JBus address, selectable baud rate, character parity, number of stop bits and transmission modes (RTU or ASCII). User or pre-defined formulae can be applied to each register if necessary.

The registers within the JDevMax Compass Point may be read from or written to using any of the following supported function codes:

Description	Function Code	Notes
Read Output Status	01	Reads register value converted to an ON/OFF status
Read Input Status	02	Reads register value converted to an ON/OFF status
Read Output Register	03	Reads register value
Read Input Register	04	Reads register value
Force Single Coil	05	This can force a single register to ON or OFF
Preset Single Register	06	Writes to a single register

All functions support register addresses in the range 0 to 999. The read functions can access up to 100 registers in a single request.

The JDevMax Compass Point can generate the following exception responses:

Description	Function Code	Notes
Illegal Function	01	The message function received is not an allowable action.
Illegal Data Address	02	The address referenced in the data field is not allowable.
Illegal Data Address	03	The value referenced in the value field is not allowable.

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## **Engineering**

### **Step 1 – Mount the Compass Point**

Refer to the 'Mounting' section within the '[Compass Point MRTC485 Installation Guide](#)' document for details on how to mount the Compass Point securely to a wall or within a cabinet.

### **Step 2 – Connect Compass Point to JBus System**

Using cable, connect the JBus network to the RS485 terminal block of the Compass Point. Refer to the section 'Cable' below for details of the cable.

### **Step 3 – Apply Power to the Compass Point**

Refer to the 'Power' section within the '[Compass Point MRTC485 Installation Guide](#)' document. Once power is applied, the green LED should be lit continuously to show that the Compass Point is working correctly on the Compass Network.

### **Step 4 – Configure the JDevMax driver within Compass Point**

The baudrate, byte format, operating mode, formula, device label and the Compass Point's address on the JBus network are configured using objects. Use object engineering software to view and modify the objects within the Compass Point.

### **Step 5 – Access Objects within the JDevMax System**

Values from the JDevMax Compass Point are made available as objects on the Compass Network. Any object software that is connected to the Compass Network can access these objects.

Each of the 1000 registers within the JDevMax Compass device should be configured with a formula. This is then used when writing to/reading from the register value.

The red LED near the RS485 port of the Compass pulses when a valid message is transmitted or received by the Compass Point.

### **Step 6 – Configure the Transfers within the Compass Point**

Compass Point transfers are also configured using objects. Refer to the '[Introduction to Compass Transfers](#)' document for more details.

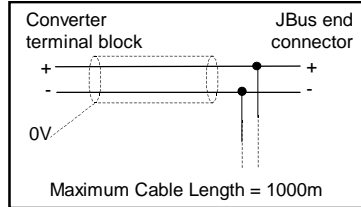
### **Step 7 – Configure the Alarm Handling within the Compass Point**

Compass Point alarm handling is also configured using objects. Refer to the '[Introduction to Compass Alarms](#)' document for more details.

# Engineering Reference

## Cable Specification

Connect the Compass RS485 connector to the J-Bus connector on the equipment. The earthing screen or braid of the RS485 cable should be connected **as close as possible** to the 0V terminal at one end only. **Do not connect the earthing braid of a single cable run to more than one unit, be it converter or device.**  
The cable between Compass Point and the JBus network is as follows:



## Objects

When the Compass Point is powered-up the following objects are created on the Compass Network, use object software to access these objects.

Object	Label	R/W	Type
Dn <sup>[1]</sup>	JDevMax System	-	[JDevMax v12]
Pp <sup>[2]</sup>	JDevMax Compass Point	-	[Compass v22\JDevMax v12]

## Notes

- [1] The Device Number, *n*, is a number in the range 0...63.
- [2] If the Compass Point has its device number configured the Point address, *p*, is a number in the range 1...63. If no device number is set the Point address, *p*, is the Compass Point serial number in the range 1000000...9999999