TM

Installation Instructions

Manual 10 - Star Driver Modules

PY-STR, PY-STR-L, PY-STR-H and PY-STR-2-H

Read also:

- Installation Instructions, Manual 2 - Network Wiring

Please read this manual completely before installing your Star Driver Module

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Product Safety

Please follow these instructions as you install your Star Driver module and keep them for future use. If you have any problems contact your Baxall agent.

WARNING:
Installation is only to be carried out by competent, qualified and experienced personnel.

WARNING:
Wire in accordance with your national wiring regulations. Failure to do so can result in injury or death by electric shock.

WARNING:
This product has an internal 12V DC, class 2, isolated power supply.

Product Reliability

CAUTION:
Your module is susceptible to damage from Electrostatic Discharge (ESD). Take normal ESD precautions when handling your network card. ESD prevention kits are available from most electronics distributors.

CAUTION:
Do not exceed the voltage and temperature limits given in the specification.

CAUTION:
Switch off the power before fitting a network card.

Safety and Electromagnetic Compatibility (EMC)

CAUTION:
> This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

This product is intended for use in general purpose CCTV applications in a residential, commercial or light industrial EMC environment, refer to Baxall Security before using the product in an industrial EMC environment.

The product must be installed in accordance with good installation practice for EMC to enable the product to function as intended and to prevent EMC problems.

Contact Baxall Security Technical Support Department to obtain a specification defining the acceptable levels of product degradation with regard to EMC immunity.
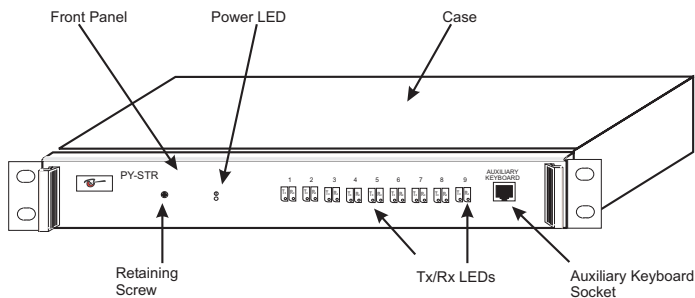
Manufacturer's Declaration Of Conformance

The manufacturer declares that the product supplied with this document is compliant with the essential protection requirements of the EMC directive 89/336 and the Low Voltage Directive LVD 73/23 EEC. Conforming to the requirements of standards EN 55022 for emissions, IEC801 parts 2, 3 and 4 for immunity and BS415 superseded by EN60950 for Electrical Equipment safety.

Introduction

These instructions tell you how to install your Star Driver. They do not contain any application information. If you are unsure of how and when to use your Star Driver module then see **Installation Instructions, Manual 2 – Network Wiring**.

Figure 1 A Star Driver Module

The following Star Driver modules are available.

PY-STR
> This module is supplied without any network cards installed. It is set by default for low speed (9.8 KB) operation.

PY-STR-L
> This module is supplied with nine PY-COM, combined-personality network cards. These are all set by default, to mimic standard RS485 Network Cards. If any of these cards is to be a first or last module on a network segment, or its protocol is to be changed, its switches must be set accordingly, see **Installation Instructions, Manual 2 – Network Wiring**. The unit is set for low speed (9.8 KB) operation.

PY-STR-H
> This module is supplied with nine PY-FTT, FTT10 network cards. The unit is set for high speed (78 KB) operation.

PY-STR-2-H
> This module is supplied with nine PY-COM, combined-personality network cards, These are all set by default, to mimic standard RS485 Network Cards. If any of these cards is to be a first or last module on a network segment, or its protocol is to be changed, its switches must be set accordingly, see **Installation Instructions, Manual 2 – Network Wiring**. The unit is set for high speed (78 KB) operation.

Unpacking

Keep your packaging for use if your star driver is stored for a time or needs to be returned for whatever reason. The packaging should contain:

- Your star driver - PY-STR, PY-STR-L, PY-STR-H or PY-STR-2-H
- An A4 Module Description sheet (for recording installation details)
- These Instructions

Check the product code on the serial number label. If you have an incorrect item or it is damaged, inform the suppliers and carriers immediately: **do not attempt to use your star driver**.

Bar Coding

Your Star Driver is a repeater and has no intrinsic functionality. Therefore, it does not have an address bar-code as it has no network address.

The Procedure

The instructions for the wiring of the network are given in **Installation Instructions, Manual 2 – Network Wiring** .

If your Star Driver is a PY-STR-L, PY-STR-H or PY-STR-2-H and you intend to use it with the factory settings, you do not need to remove the module's PCB from its case. If you have a PY-STR or if you need to make changes to the default installation of your PY-STR-L, PY-STR-H or PY-STR-2-H, you need to read the rest of this section.
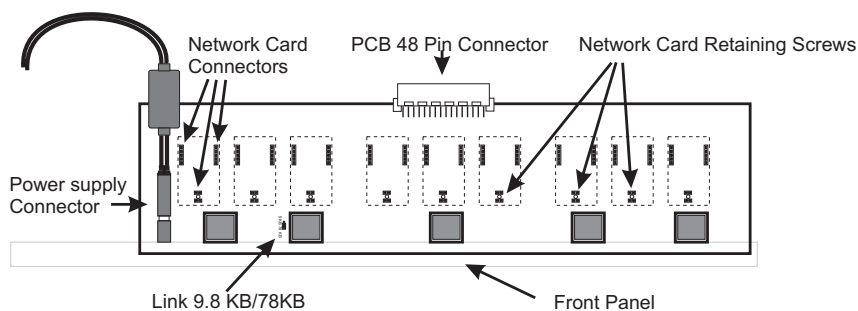
Your star driver can contain up to 9 network cards (minimum 2) in any of the positions shown in Figure 2. The currently-supported network cards are:

- PY-FTT, FTT10 flexible topology network card, 78 KB only
- PY-COM, combined-personality network card (RS485, RS422 or TTL), with automatic baud-rate selection (9.8 KB or 78 KB)
- PY-FI7 Fibre-optic network card, 78 KB
- PY-FI9 Fibre-optic network card, 9.8 KB

Any of these cards can be combined if they are the same speed (baud rate), and are the same speed as the link setting on the star driver's PCB (see Figure 2)

To correctly install your star driver, you must remove the lid and fit (or remove) the network cards, adjust the PCB 9.8KB / 78KB Link if necessary, and connect the networks. The red LED on the front panel indicates that the power is correctly connected.

Fitting the network cards is described in the next section.
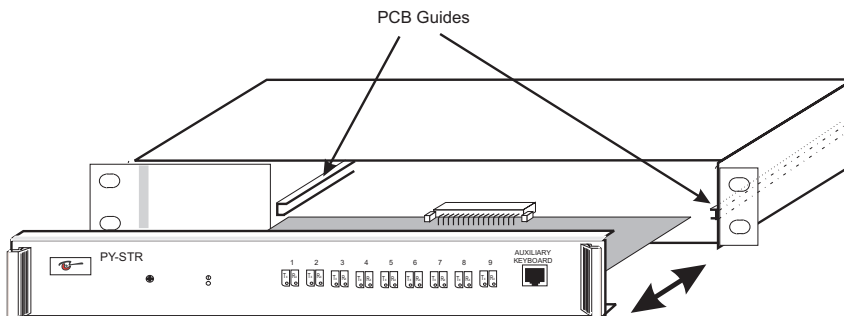

Figure 2 Star Driver PCB

Installation

Your Star driver is a 19" 1U module and is designed to fit in a 19" rack.

To Fit the Network Cards

CAUTION:
Switch off the power before fitting a network card.

- Using an appropriate screwdriver, remove the front panel retaining screw (see Figure 1)
- Carefully slide out the front panel and attached PCB (see Figure 3).

Figure 3 Removing the PCB

Figure 2 shows the Star Driver PCB, the dotted boxes indicate the positions for the network cards.

To fit each network card:
- Using an appropriate screwdriver, remove the network ard retaining screw from the mounting pillar (see Figure 2).
- Align the connectors and push the network card into place.
- Refit the screw to secure the network card in place.
- For a PY-COM, change the switch settings, if required
- Make a note on the Module description Sheet of the card positions and settings. This saves confusion when the lid is refitted.
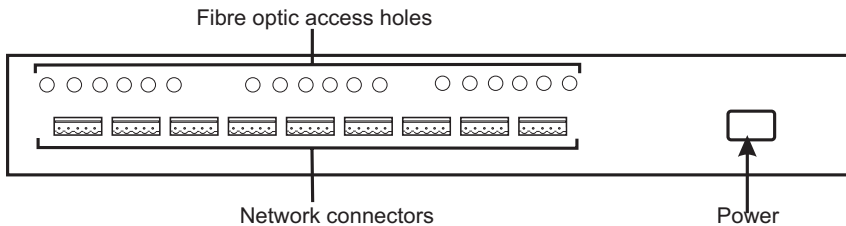
Once all your network cards are fitted

- Check that the PCB 9.8KB / 78KB Link is correctly set (see Figure 2)
- For fibre optic network cards (PY-FI7 and PY-FI9), feed the fibre optic cables through the corresponding access holes in the Star Driver's lid and connect them to the network cards, see Figure 4 and **Installation Instructions, Manual 2 – Network Wiring**.
- Locate the PCB into the PCB guides and slide it home, taking care not to trap the internal power cable. The 48-pin connector at the rear of the PCB should mate precisely with that in the lid.
- Refit the front panel retaining screw you removed earlier

To Wire the Network Cards

Each of the network protocols (RS485, RS422, TTL, Fibre, FTT10) have different connections and different wiring conventions.
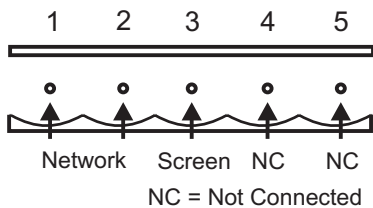
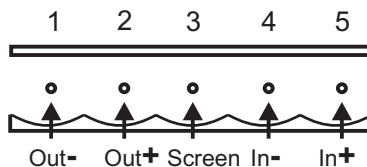The rear panel of the Star Driver is shown Figure 4.

Figure 4 Rear Panel

The 5-way connectors on the rear panel are shown in Figure 5, viewed from the **rear** of the unit. Wire the network as indicated and connect the cable screen as shown. The techniques for wiring each type of network are given in **Installation Instructions, Manual 2 – Network Wiring**.
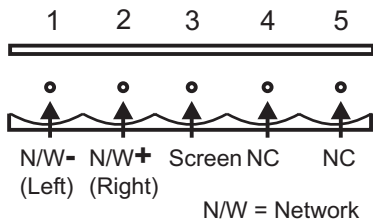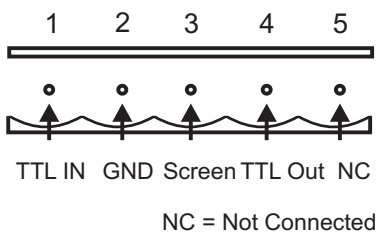
FTT10

1	2	3	4	5

Network   Screen   NC   NC

NC = Not Connected

RS422

1	2	3	4	5

Out-   Out+   Screen   In-   In+

RS485

1	2	3	4	5

N/W-   N/W+   Screen   NC   NC
(Left) (Right)

N/W = Network

TTL

1	2	3	4	5

TTL IN   GND   Screen TTL Out   NC

NC = Not Connected

Figure 5 Network Connections

NOTE:
> The fibre network card (optical-fibre) does not use the 5-way connector. The connections are made directly to the network card and via the access holes in the back panel, above the 5-way connector.

Power Connections

The Star Driver's mains connection location is shown in Figure 4. The unit incorporates a 115/230V AC to +12V DC, class 2 power supply.

Maintenance

Once your star driver is correctly installed it requires no maintenance.

Specification

Networks Supported

- FTT10
- Fibre- Optic
- RS485
- RS422
- TTL

Please refer to **Installation Instructions, Manual 2 – Network Wiring**, for details of the different implementations)

Power Consumption

Less than 20 watts

Physical

Weight 5 kg
Size 443 x 44 x 154 mm (19", 1U)

Temperature

Operational temperature limits:-
-10ºC to +50ºC at 10% to 80% relative humidity (non-condensing)
Storage temperature limits:-
-20ºC to +60ºC at 10% to 95% relative humidity (non-condensing)

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