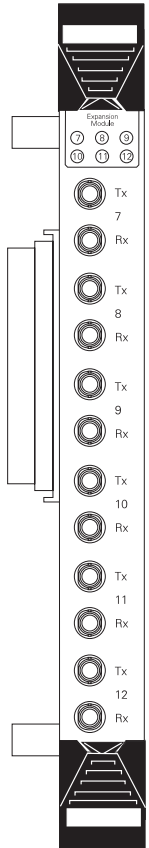


# Using The LEDs For Fault Diagnosis

The LEDs on the front of the 6 Port Fiber Expansion Module provide simple at-a-glance fault diagnosis.

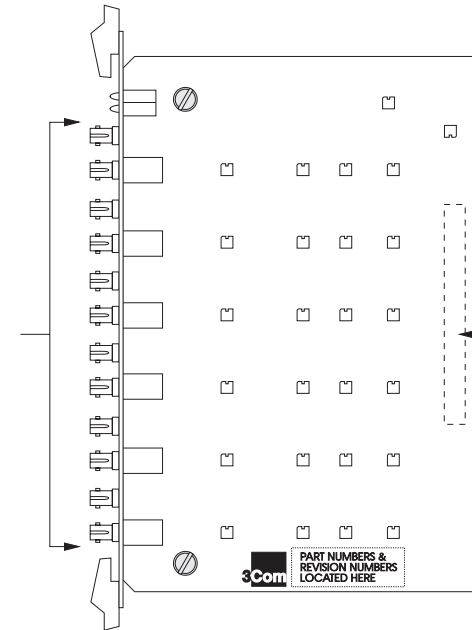


## Port LEDs 7 - 12

<b>Red on</b>	Port is enabled, no 'loss-of-light', segment is partitioned.
<b>Red flashing</b>	Port is disabled, no 'loss-of-light', segment is partitioned.
<b>Green on</b>	Port is enabled, no 'loss-of-light', segment is not partitioned (segment is operating normally).
<b>Green flashing</b>	Port is disabled, no 'loss-of-light', segment is not partitioned.
<b>Off</b>	Loss-of-light

For information on how to test the LEDs, refer to 'How To Install And Use The LinkBuilder MSH'. During a lamp test all yellow LEDs are lit continuously and all bi-color LEDs flash red/green alternately.

6 x Fiber ports (SMA or ST type connectors)



Module connector (located on other side)

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## ACKNOWLEDGEMENTS

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 Issued: August 9th, 1993  
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## The 6 Port Fiber Expansion Module

When fitted to a Smart Module, this Expansion Module provides an additional 6 optical fiber ports (802.3 10BASE-FL) for connection to 6 fiber segments.

The 6 Port Fiber Expansion Module can be used with the following expandable Smart Modules:

- 3C18130 Smart 6 Port Fiber Module (SMA)
- 3C18135 Smart 6 Port Fiber Module (ST)
- 3C18140 Smart 6 Port Coaxial Module

Your supplier will know of any other expandable Smart Modules not listed here.



### Note

Ports on the Expansion Module are automatically assigned to the same Ethernet bus as the Smart Module.

For general information and instructions about installing modules into the LinkBuilder MSH, please refer to 'How To Install And Use The LinkBuilder MSH', document number DUA1800-0AAA0x.

Details of LinkBuilder local and network management functions are available in the manuals that accompany the MSH management module.

## Safety Information



Please read the following safety information before installing the module.

- Installation of this module should be carried out by *qualified personnel only*.
- This module operates under SELV conditions (Safe Extra Low Voltage according to IEC 950), but only if connected to equipment that is also operating under SELV.
- The MSH chassis must be earthed.

### Modules can be easily damaged by static:

- Do not remove the module from its anti-static packaging until you are ready to fit it onto a Smart Module.
- Do not touch the pins, leads, connections or any components on the module.
- Handle modules only by their edges.
- Always wear an anti-static wristband connected to a suitable earth point.
- Always store or transport modules in anti-static packaging.

This guide is written for the installation engineer and the network administrator who manages and maintains the network.

After installation, this guide should be stored in the documentation holder located underneath the MSH chassis.

## Fitting The Expansion Module

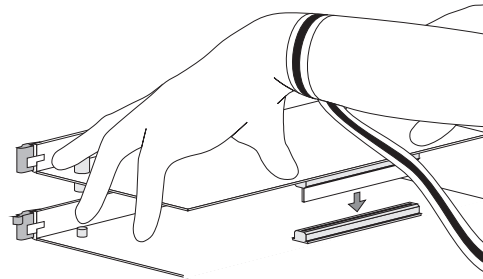
Read the Safety Information before fitting the Expansion Module.

Put on the anti-static wristband provided and attach the copper foil to a convenient and exposed electrical ground.

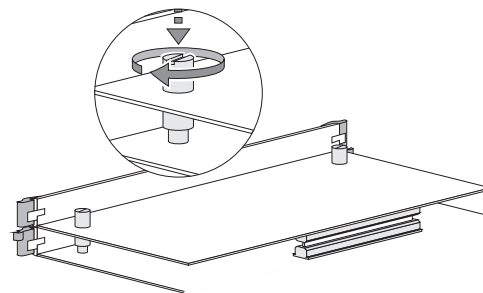
Place the Smart Module on a hard, flat, anti-static surface.

Locate the Expansion Module over the Smart Module, ensuring the connectors are aligned.

Applying pressure only where indicated, push the modules firmly together.



Tighten the two captive screws finger tight to ensure the Expansion Module is held firmly in place.



## Installing The Smart Module Pair

For instructions on installing the Smart Module refer to the User's Guide that accompanies it.

Ensure that two slots are free and insert the Smart Module into the left hand side.



### Note

The Expansion Module has non-functional ejectors. Use only the Smart Module's ejectors to insert and eject the module pair from the MSH chassis.

### Connecting Cables

Connect the required cables to the module using either ST or SMA connectors depending on the type of module you have.

- Ensure that the module is powered-up before connecting the fiber segments to the ports and that a light signal has been launched into the far end of the segment.
- Clean the terminators on the free ends of the fiber optic segments by wiping them gently with a clean tissue or cotton buds moistened with ethanol.
- Take the free ends of the fiber optic segments and connect them to the Tx/Rx pair of the fiber optic port for each segment.

With both ends of the fiber optic segment correctly connected, the port status LED will be lit.

## Technical Information

Mechanical	
Weight	440 g (1.0 lb)
Size	223.3 x 152.2 mm (8.8 x 6 in)

### Electrical - Power Consumption

+12V supplied from Smart Module	0.12A
+5V supplied from Smart Module	1.5A

## Fault Diagnosis

If you suspect a problem:

- Check the status of the LEDs on the front panel of the module, as described overleaf. Carry out a lamp test to check that all LEDs are functioning.
- Check the PWR LED on the attached Smart Module. If it is red, a fault has occurred during power up self test or in operation.
- Check the configuration of the Smart Module.
- Ensure the Expansion Module is correctly attached to the Smart Module.
- Check all connections: SMA screw type connectors should be finger tight, ST bayonet connectors should be correctly engaged and locked.
- If a 'loss-of-light' has occurred, check that the fiber cables are connected to a powered-up fiber device or try reversing the Tx and Rx pairs of cables.

If you cannot rectify the fault, contact your supplier, giving the following information:

- The Expansion Module serial number (marked on the bottom module ejector).
- The revision number (marked on the module board).
- A brief description of the fault.

Your supplier will advise you on your next course of action.

**LinkBuilder**

# The Smart 6 Port Fiber Expansion Module 3C18131 (SMA) & 3C18136 (ST) Installation and User's Guide

*Storage space is available for this guide underneath the LinkBuilder MSH chassis*