

FY-ES3-KSU

4 Port Fast Ethernet POF Switch

Datasheet



DESCRIPTION

The Firecomms 4 Port Fast Ethernet POF Switch is a high-performance unmanaged switch integrated with easy-to-use POF connectors. This Fast Ethernet POF Switch provides three 125 Mbps high-speed Fast Ethernet OptoLock® POF connectors and one 100 Mbps RJ-45 connectors. The POF switch allows users to easily connect their OptoLock or RJ-45 enabled devices under the same network.

The POF Switch is a plug and play device. Therefore, it does not require any firmware, driver or external software to operate.

Auto-MDIX, a standard feature on the PHY IC used in this POF Switch, automatically corrects for cable cross-over. The PHY provides the optimum data handling conditions for streaming video with excellent quality of service (QoS). This link is particularly suitable for applications such as IPTV delivered over a POF physical layer. The Firecomms RCLED based transceiver provides high levels of light coupling into fiber with short rise and fall times. This enables Ethernet signalling over large core POF.

Ordering Information (For POF Switch main unit only)

Part Number	Name	Description
FY-ES3-KSU	POF Switch	4 Port Fast Ethernet POF Switch

Note: DC power supplies, USB power cables, POF cables and CAT5 cables are not included in the above part number. Please see accessories section on page 3 for more information.



FEATURES

- Converts Ethernet over copper to Ethernet over plastic optical fiber
- Offers easy connection of POF via the patented OptoLock® plugless locking system
- 100 Mbps data (125 MBd) throughput sends high speed Fast Ethernet up to 80 meters over POF
- High speed 650 nm Resonant Cavity LED
- Auto MDIX simplifies cable selection
- Power supplied by a 5 V USB cable
- Enables low cost and rugged optical data networks
- Plug and Play
- RoHS compliant
- CE marked

APPLICATIONS

- Point to Point Fast Ethernet Links
- Set top box to gateway box in home network
- Networking of robots in industrial environment
- Connection of medical devices
- Secure/tamperproof network
- High EMI immunity

SPECIFICATIONS

Storage Specifications

Parameter	Symbol	Minimum	Maximum	Unit
Storage Temperature	T _{stg}	- 20	+ 70	°C
Operating Temperature	T _{op}	0	+ 50	°C
Storage Humidity (RH non-condensing)	H _{stg}	10	90	%
Operating Humidity (RH non-condensing)	H _{op}	10	90	%

Ethernet Specifications

Specification	Description
Interface	3 x 125 Mbps Fast Ethernet OptoLock® 1 x 100 Mbps Fast Ethernet RJ-45
Standards	IEEE 802.3u 100BASE-TX Fast Ethernet IEEE 802.3x Flow Control 100Base-FX, 100Base-TX

Technical Specifications

Parameter	Description	Minimum	Typical	Maximum	Unit
V _{cc}	DC supply voltage	4.5	5	5.5	V
I _{cc}	Current Consumption	380	-	420	mA
Baud Rate	For an 8B/10B encoded data bus	10	-	125	MBd
λ _{peak}	Peak Wavelength of Transmitter RCLED at 25°C	640	660	670	nm
Δλ	Spectral Bandwidth (FWHM)	-	23	30	nm
PO25	Average Output Power coupled into plastic fiber at TA=25 and 125Mbps data rate.	-6.0	-	-	dBm
T _r	Optical Rise Time (20% - 80%)	-	1.5	2	ns
T _f	Optical Fall Time (80% - 20%)	-	2	3	ns
PIN _{min}	Minimum Receivable Power	-24	-	-	dBm
PIN _{max}	Maximum Receivable Power	-	-	0	dBm

Physical Specifications

Specification	Measurement	Unit
Dimensions	140 * 80 * 27	mm
Weight	250	g

ACCESSORIES

Accessories and Kit Ordering Information

Part Number	Name	Description
FY-ES3-KSU	POF Switch	4 Port Fast Ethernet POF Switch
FY-ES3-KKS	US Single End Kit	A kit includes: Ethernet POF Switch, US power supply, USB power cable and POF cutter
FY-ES3-KKL	UK Single End Kit	A kit includes: Ethernet POF Switch, UK power supply, USB power cable and POF cutter
FY-ES3-KKG	EU Single End Kit	A kit includes: Ethernet POF Switch, EU power supply, USB power cable and POF cutter
F02269-102*	US Power Supply	DC Adaptor, 5V, 500 mA, Black, USB, US Input
F02269-101*	UK Power Supply	DC Adaptor, 5V, 500 mA, Black, USB, UK Input
F02269-103*	EU Power Supply	DC Adaptor, 5V, 500 mA, Black, USB, EU Input
F02198-100*	USB Power Cable	USB DC Power Cable, length 100 cm
PC220F-410	POF Cutter	POF cutter used for terminating and splicing 2.2 mm POF with jacket stripper

*Must be ordered with POF Switch

Bare POF Cable Ordering Information

Part Number	Name	Description
FC-xxx-0SB	Simplex POF Cable	SI-POF 2.2 mm simplex
FC-xxx-0DB	Duplex POF Cable	SI-POF 2.2 mm duplex

Note: To ensure tidiness, Duplex POF is typically used with the POF Switch

The sequence -xxx in each part number should be replaced by one of the following to indicate the required length:

Part Number Length Code

Code	Length	Max Length
xxC	xx cm Cable	99 cm
xxM	xx m Cable	50 m

Ordering example:

A 5m duplex POF cable would have the part number FC-05M-0DB

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