FX-2PIF-001 INTERFACE MODULE USER'S GUIDE

Introduction

The FX-2PIF-001 is an active two port communications module for use with all FX, FX_0 and A series programmable controllers. The PC type selection is made by setting a DIP switch. The features of the FX-2PIF-001 include;

- Shared access to the PCs programming port by a data access unit and one other programming or monitoring peripheral. The second peripheral can communicate to the PC on either an RS232 or a RS422 port. The active port is simply selected by a positive hardware switch. If the RS232 port is used the FX-2PIF also acts as a RS232/RS422 converter.
- The FX-2PIF-001 has been designed for use as a test and maintenance tool. The FX-2PIF has a rugged design offering a small overall size and a convenient hanging hook for temporary mounting.

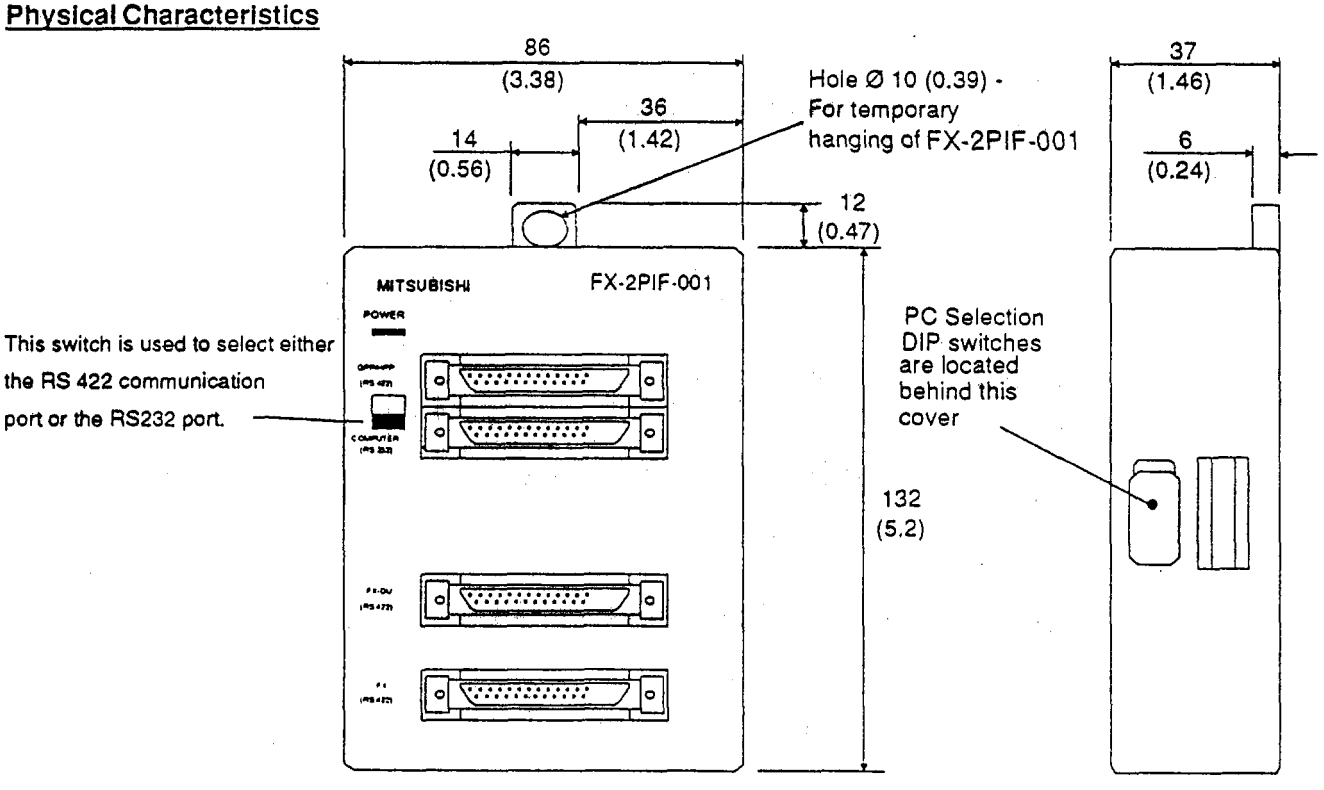
General Specification

Ambient Operating Temperature	0 - 45 °C
Ambient Operating Humidity	35 - 85 % Relative Humidity, no condensation
Noise Immunity	Noise Simulation Test: 1000V square pulse, 1μs pulse width, 30 to 100 HZ frequency sweep
Maximum Dielectric Voltage Withstood	Programmable Controller I/O and power terminals subjected to 500 V AC for 1 minute
Required Operating Environment	No corrosive gases present, minimal dust
External Dimensions	132 x 86 x 37 mm (5.2 x 3.38 x 1.46 inches)
Weight	0.3 Kg (0.66 lbs)
Mounting Facilities Provided	Temporary hanging hook

Electrical Specification

Power		5 V DC, supplied by the programmable controller
Current Drawn From The 5 V DC supply When Using The Following Items With The FX-2PIF	Computer	310 mA
	FX-20P-E	340 mA
	A6GPP	180 mA

Physical Characteristics



DIMENSIONS : mm (inches)

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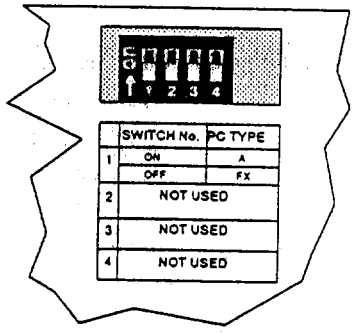
Selection Of PC Type

The FX-2PIF-001 can be configured to work with both FX and A series programmable controllers. This configuration consists of setting DIP switch 1 to ON (the switch is moved up) when using an A series PC or OFF (the switch is in the down position) when using FX and FXo PCs. The DIP switches are located behind the removable cover identified earlier.

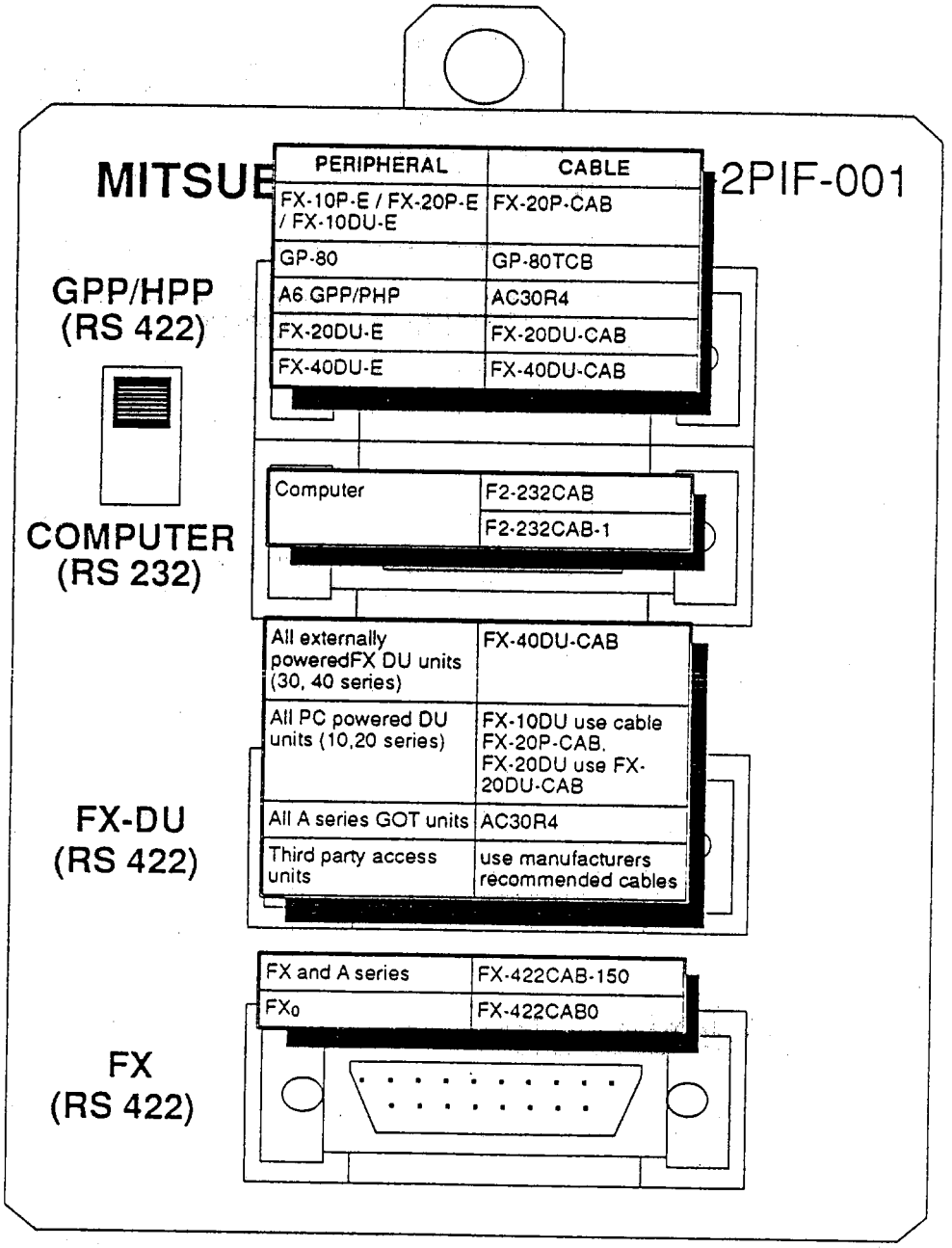


SWITCH No.	PC TYPE
1	ON: A / OFF: FX
2	NOT USED
3	NOT USED
4	NOT USED

A scrap view showing the PC selection DIP switches

Connection Diagram

The Peripherals and cables that can be connected to each port are identified below;



PERIPHERAL	CABLE
FX-10P-E / FX-20P-E / FX-10DU-E	FX-20P-CAB
GP-80	GP-80TCB
A6 GPP/PHP	AC30R4
FX-20DU-E	FX-20DU-CAB
FX-40DU-E	FX-40DU-CAB
Computer	F2-232CAB
	F2-232CAB-1
All externally poweredFX DU units (30, 40 series)	FX-40DU-CAB
All PC powered DU units (10,20 series)	FX-10DU use cable FX-20P-CAB, FX-20DU use FX-20DU-CAB
All A series GOT units	AC30R4
Third party access units	use manufacturers recommended cables
FX and A series	FX-422CAB-150
FXo	FX-422CAB0

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Caution:- PC Power Supply Overload

When using the FX-2PIF-001 with peripherals supplied with power from the PC, care should be taken not to overload the PC. IF this happens, the normal operation of part or all of the system will be affected; the worst case being the PC shuts down. Example;

The FX-2PIF-001 is used with an A6GPP programmer, an FX-10DU-E data access unit and an FX PC.

The FX PC can supply 5V DC 290mA in excess of that which is required by a programmer on its own. Hence, the total available 5V DC supply from the PC is 290 + 150 = 440mA.

The total 5V DC current required by this example is; 180mA (for programmer and FX-2PIF-001) + 220mA for the data access unit = 400mA. This is OK. If the A6GPP was replaced by a computer then; 310mA (for computer and FX-2PIF-001)+ 220mA for the data access unit = 530mA. This will cause a power overload on the FX.

Please remember: if the FX PC's 290mA supply is used to drive a peripheral attached to the FX-2PIF-001, there will be NO residual supply from the FX to drive additional I/O blocks. However, the use of powered extension units, i.e. FX-**ER is an option; as these units provide additional internal 5V DC supplies.

Points For Use Of The FX-2PIF-001 With A Series

1) The following combinations of A series PC and FX-2PIF-001 can be used;

A SERIES PC	FX-2PIF-001 ver 2.0
AnN	✔
AnA	
A2C	
A1S	
A0J2H	

2) When using the FX-2PIF-001 with an A series PC and an FX-30/40DU-(TK) the following restrictions are imposed by the FX-2PIF-001 on the quantity of data being monitored. The sum total of active devices at any one time must be equal or less than 34.
The number of devices are calculated using the following tables, summing the total of each section, then summing the complete total, i.e.

$$① + ② + ③ + ④ \leq 34$$

Monitoring Contact Statuses;

A SERIES PC	INPUT CONTACT 'X'	STATUS CONTACTS 'Y, M, T and C'
AnN, A2C, A1S, A0J2H	Number of items used × 2 = ①	Number of items used × 1 = ②
AnA	Number of items used × 1 = ①	

Monitoring Actual Data Values

A SERIES PC	DATA DEVICES	
	T, C, D, Z, V - 16 bit	C, D, Z, V - 32 bit
AnN, AnA, A2C, A1S, A0J2H	Number of items used × 2 = ③	Number of items used × 4 = ④

Example:

Solution

Situation: PC = A1S

Number of devices allocated:

Contacts	X = 3	①	3 × 2 = 6
	C = 4	②	4 × 1 = 4
	M = 1	②	1 × 1 = 1
Data values 16 bit	D = 2	③	2 × 2 = 4
	V = 1	③	1 × 2 = 2
Data values 32 bit	D = 4	④	4 × 4 = 16
	Total devices used (① + ② + ③ + ④)		33 OK! (less than 34)

3) When using the FX-2PIF-001 with an A series PC and either a personal computer or an A6GPP/PHP care should be taken not to monitor more than 103 devices at any one time.