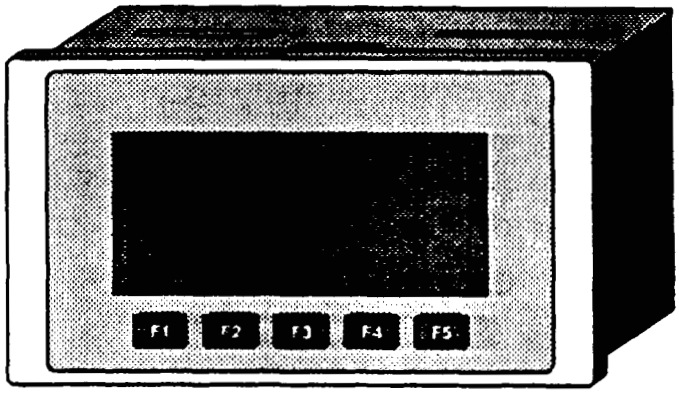
MITSUBISHI

PROGRAMMABLE CONTROLLERS

MELSEC-F

HARDWARE MANUAL

GRAPHIC FX DU UNITS
FX-25DU-E SUPPLEMENT



FX

Foreword

- This manual contains text, diagrams and explanations which will guide the reader in the correct installation and operation of the Graphic FX DU Unit and should be read and understood before attempting to install or use the unit.
- If in doubt at any stage during the installation of the Graphic FX DU Unit always consult a professional electrical engineer who is qualified and trained to the local and national standards. If in doubt about the operation or use of the Graphic FX DU Unit please consult the nearest Mitsubishi Electric distributor.
- This manual is subject to change without notice.

Graphic FX DU Units

FX-25DU-E Supplementary Hardware Manual

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Manual revision:	A
Date:	July 1995

Guidelines for the safety of the user and protection of the Graphic FX DU Unit

This manual provides information for the installation and use of the Graphic FX DU Unit. The manual has been written to be used by trained and competent personnel. The definition of such a person or persons is as follows;

a) Any engineer who is responsible for the planning, design and construction of automatic equipment using the product associated with this manual should be of a competent nature, (trained and qualified to the local and national standards required to fulfil that role). These engineers should be fully aware of all aspects of safety with regards to automated equipment.

b) Any commissioning or service engineer must be of a competent nature, trained and qualified to the local and national standards required to fulfil that job. These engineers should also be trained in the use and maintenance of the completed product. This includes being completely familiar with all associated documentation for the said product. All maintenance should be carried out in accordance with established safety practices.

c) All operators of the completed product should be trained to use that product in a safe and co-ordinated manner in compliance to established safety practices. The operators should also be familiar with all documentation which is connected with the actual operation of the completed equipment.

Note: the term 'completed equipment' refers to a third party constructed device which contains or uses the product associated with this manual.

Notes on the symbology used in this manual

At various times through out this manual certain symbols will be used to highlight points of information which are intended to ensure the users personal safety and protect the integrity of the equipment. Whenever any of the following symbols are encountered, its associated note must be read and understood. Each of the symbols used will now be listed with a brief description of its meaning.

Hardware warnings

1) Indicates that the identified danger WILL cause physical and property damage.

2) Indicates that the identified danger could POSSIBLY cause physical and property damage.

3) Indicates a point of further interest or further explanation.

Software warnings

4) Indicates special care must be taken when using this element of software.

5) Indicates a special point of which the user of the associate software element should be aware.

6) Indicates a point of interest or further explanation.

1. Introduction

ENG

This manual gives additional information relating to the following graphic data access units:

– FX-25DU-E

All section and page numbers relate to the "Graphic FX DU Units Hardware manual" of which this manual is a supplement. The two manuals should be read together.

For information on operation please refer to the "Graphic FX DU Unit Operation Manual".

1.1 The Complete Family Of Data Access Units

FX-25DU-E

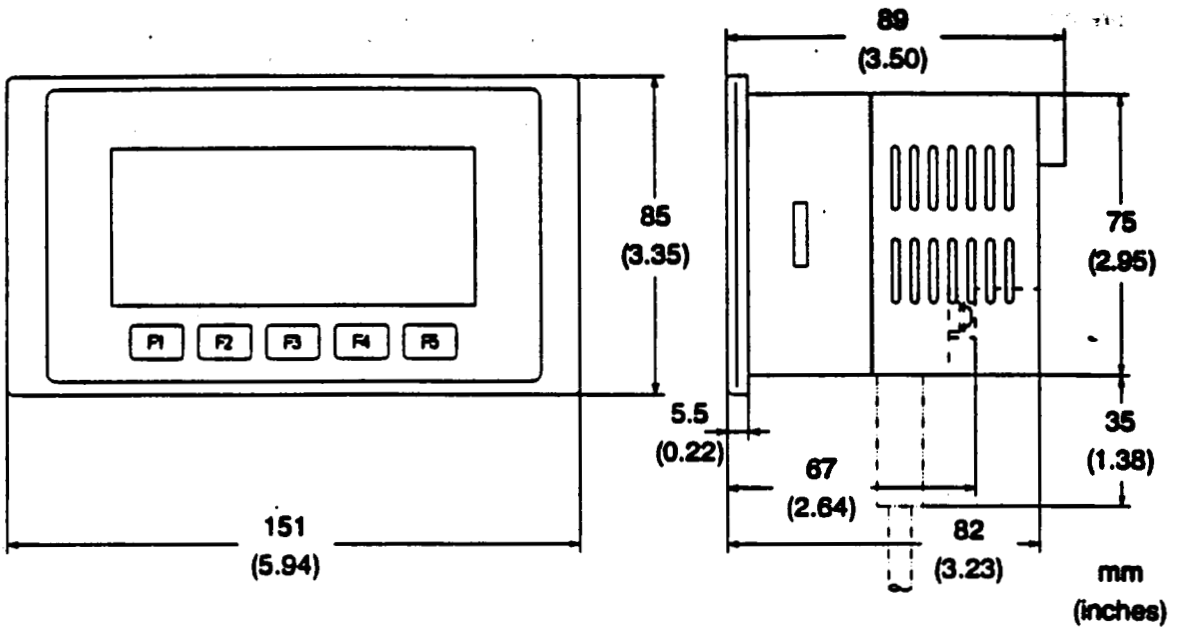


Table: 1.1 *Unit Characteristics*

MODEL	SCREEN TYPE		KEYS	IP RATING
FX-25DU-E	160 ×64 dots 20 ×4 char	YELLOW or RED LCD BACKLIGHT	5	IP 65*

* according to manufacturer's tests

Table: 1.2 *Basic Specifications*

MODEL	POWER SUPPLY		DIMENSIONS			WEIGHT
			W mm (inch)	H mm (inch)	D mm (inch)	kg (lb.)
FX-25DU-E	24V DC +10% -15%	170mA	151 (5.94)	85 (3.35)	89 (3.50)	0.8 (1.76)

1.2 Unit Accessories

All accessories are the same as for all Graphic DU units with the exception that the FX-25DU-E is not supplied with a battery; all data is held in EEPROM. See Page 1-6 of the main manual.

1.3 Optional Accessories

For programming and setup the FX-PCS-DU/AT-EE software can be used. The FX-2PIF is used to connect two communications devices to one Mitsubishi PC.

1.4 Configuration

The configuration of the graphic DUs can be found on pages 1-8 to 1-10 of the main manual.

In figure 1.12, tables 1.12 and 1.13 the configurations marked as 6, (F), 7, (G), 8 and 3 are not applicable for the FX-25DU-E.

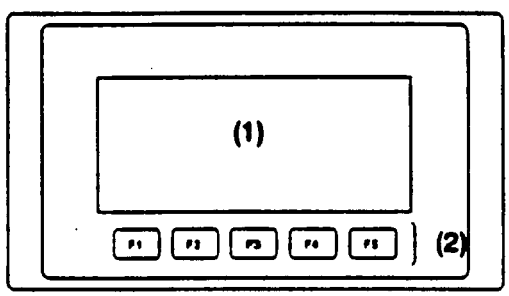
2. Terminal Layouts

The terminal layouts for the FX-25DU are as described in the main manual.

3. Installation

See page 3-3 of main manual.

Figure: 3.1 *FX-DU Front View*



FX-25DU-ES

3.1 Product Outline (Front View)

See Figure 3.1

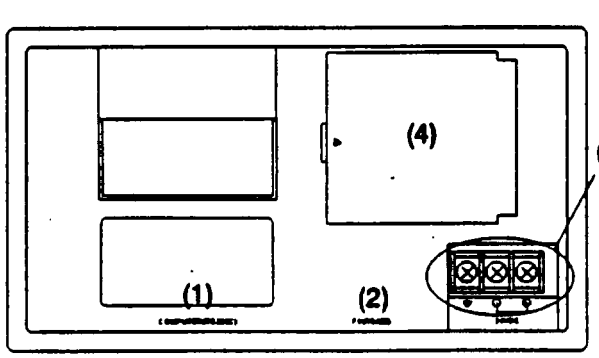
1	Normal (YELLOW) or RED backlit LCD screen
2	5 Tactile function keys

3.2 Product Outline (Rear and Below View)

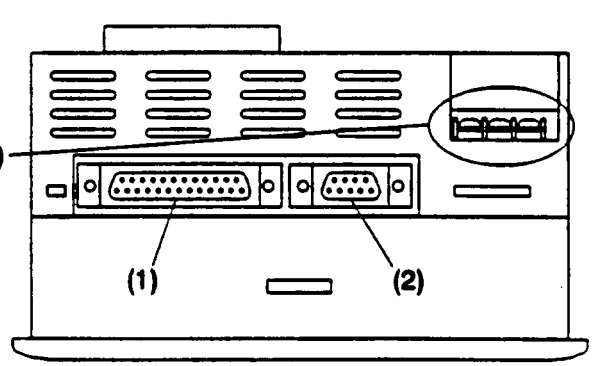
See Figure 3.2

1	RS232 comms port to computer or printer
2	RS422 comms port to FX PC
3	24v DC supply terminals
4	System EPROM access door

Figure: 3.2 *FX-DU Rear View*



FX-25DU-ES



FX-25DU-ES

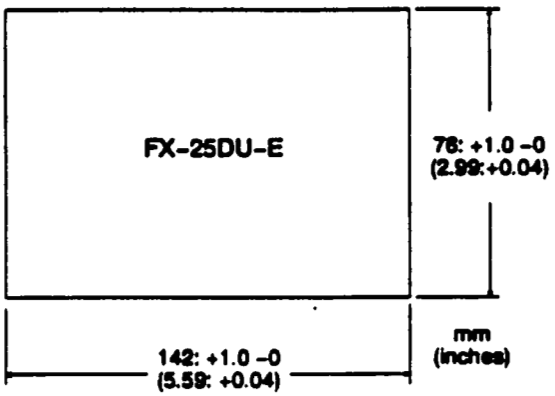
3.3 Environment Specification

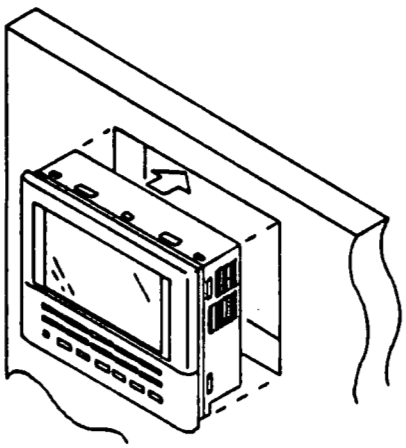
Operating temperature	0 to 40 °C, 32 to 104 °F
Storage temperature	-20 to 60 °C, -4 to 140 °F
Humidity: *No condensation*	35 to 85% R.H.
Vibration resistance: *2hrs in each of 3 axis*	JIS C0911: 10 to 55Hz, 0.5G
Shock resistance: *3 times in 3 directions*	JIS0912: 10G
Noise immunity: *tested by noise simulator*	1000 Vpp, 1μs, 30 to 100Hz
Dielectric withstand voltage *tested between power terminals and ground*	500V AC for 1min
Insulation resistance: *tested between power terminals and ground*	500V DC, >5MΩ
Ground: *not required where impossible*	Class 3 (100W)
Operating ambience: *to be free of corrosive gasses. Dust should be minimal.*	/

3.4 Data Access Unit Mounting

For mounting directions see page 3-10 of the main manual.

Figure: 3.3 *Cut-out Dimensions*





3.5 DIP Switch Settings

The FX-25DU-E has no DIP switches; all controls are set from the parameter mode accessed by holding down F3 during power on.

3.6 Control Devices

The FX-25DUs use 2 data registers to enable PC control. The values can be changed using the FX-PCS-DU/AT-EE software.

	Name	Default
Dn	PC Request Screen	D0
Dn+1	Current Display Screen	D1

4.4 Power Supply Specification

Power Supply Voltage	24V DC (+10%, -15%)
Power Supply Ripple	< 200 mV
Current Consumption	170 mA
Momentary Power Down	< 5 ms
Recommended Fuse Rating	2A

Under no circumstances will MITSUBISHI ELECTRIC be liable or responsible for any consequential damage that may arise as a result of the installation or use of this equipment.

All examples and diagrams shown in this manual are intended only as an aid to understanding the text, not to guarantee operation. MITSUBISHI ELECTRIC will accept no responsibility for actual use of the product based on these illustrative examples.

Owing to the very great variety in possible application of this equipment, you must satisfy yourself as to its suitability for your specific application.

HARDWARE MANUAL

GRAPHIC FX DU UNITS
FX-25DU-E SUPPLEMENT

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Specifications are subject
to change without notice.