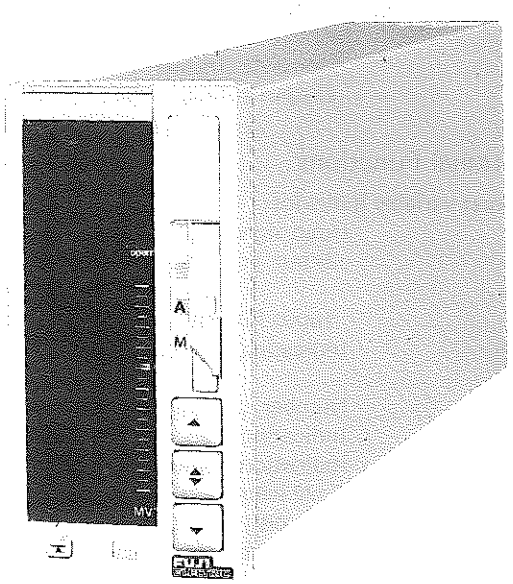
FUJI ELECTRIC

FC SERIES MANUAL LOADER (CONTINUOUS OUTPUT)

DATA SHEET PMB

The FC SERIES manual loader is available in two types; a manual control type, and a remote control type used in combination with a compact controller F or E. This instrument is equipped with a solid state indicator and pushbutton operation circuit to provide easy readouts and handling in process operation by man-machine communication.



FEATURES

1. **High reliability**
   The manual loader is a solid state instrument having few mechanical parts. The indicator and other units which were formerly composed of mechanical parts are also designed with solid state circuits to provide higher reliability.
2. **Application of international standards**
   The instrument is compact; the external dimensions comply with the IEC standards. The power supply and signal also comply with the IEC standards (DC 24V, 4~20mA). Operation on AC 100V power supply is also possible.

SPECIFICATIONS

Function: PMB1; Manual control only
PMB2; With auto (A)–manual (M) switch

Manual Control (PMB1)

Control output signal:
DC 4~20mA
Allowable load resistance; 0~600Ω
DC 1~5V
Internal impedance; 0.5Ω or less
Allowable load current; ±3mA

Control output indicator:
Indicating method; Light emitting diode (red)
Number of indicating segments; 23
Indicating range; 0~100%, linear
Indication resolution; 2.5% of full scale
Scale length; 60 mm
Note) Instrument with PV indicator: Control output signal is indicated on the plasma display by pressing the change button ◀.

Manual control: Front panel pushbutton system, ▲ ◆ ▼
Output travelling time;
▲, ▼ 40s/FS
▲ ◆, ▼ ◆ 10s/FS

With Auto (A)–Manual (M) Switch (PMB2)

Control output signal, control output indicator and manual control; Same as manual control type (PMB1)

External control input signal:
DC 1~5V
(Input signal from higher ranking controller)
Input impedance; 500kΩ or more (33kΩ outside of range)
Input filter time constant; 33ms

Auto (A)–manual (M) changeover:
Auto (A)→manual (M);
Balanceless, bumpless changeover (by front panel lever)
Manual (M)→auto (A);
By pressing the balance button ▲, the output signal is indicated on the plasma display (with process variable indicator, absolute value indication) or on the output indicator (without process variable indicator, deviation value indication ± 5% full scale). After correcting the manual output, the output signal is changed over by the front panel lever.

Auto (A)—manual (M) external changeover signal:
Changed over from auto (A) to manual (M) by external sequence signal.
External changeover signal;
Signal ON, DC 0V/–2.5mA
Signal OFF, DC 24V/+3mA

Operation mode indication:
Manual (M); red M lamp ON
Auto (A); Green A lamp ON

Mode indicating output:
Manual mode ON
Contact; Transistor contact
Output rating; Max. DC 30V, 0.1A (resistive load)

Optional Functions

Process variable indicator:
Input signal; DC 1~5V
Input impedance; 500kΩ or more (33kΩ outside of range)
Input filter time constant; 33ms
Indicating method; Plasma display (orange)
Number of indicating segments; 201
Indicating range; 0~100%, linear
Indication resolution; 0.5% of full scale
Scale length; 100 mm

Hard manual operation unit:
Application; A unit which retains control output during maintenance of loader.
Control range; 0~100%

Auto (A), (R), Manual (M)—Hard Manual (HM) changeover:
Changed over to hard manual mode by using the hard manual switch or by removing the main body.
The LED (▲,▼) lights where is some deviation between the hard manual and the main body outputs (the LED goes off at less than ±1% deviation).
Operation mode indication; The front panel HM lamp lights during the operation of the hard manual controller.

Operating Conditions and Others

Power supply: DC 24V (20~30V) or
AC 100V ±10%, 50/60 Hz

Power consumption:
Approx. 4W (DC 24V) or
approx. 6VA (AC 100V)

Allowable momentary power interruption:
DC power supply; 1ms
AC power supply; 30ms
DC power supply for battery backup is available on request.

Memory data holding time:
Output; TYP 30 min
When memory data are cleared due to a long power failure, the output is resumed from the preset level. (Preset level setting function is built in)

Dielectric strength:
AC 500V, 1 min (DC power supply)
AC 1000V, 1 min (AC power supply)

Insulation resistance:
100MΩ or more at DC 500V

Ambient temperature:
0~45°C

Ambient humidity:
90% RH (MAX)

Enclosure: Steel case

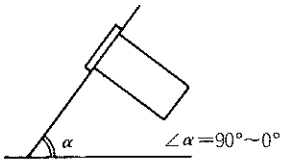
Dimensions (HxWxD):
144x72x400 mm (case) + terminals

Weight: Approx. 4.5 kg

Finish color: Munsell 7Y 7.3/1.4 (case, front panel)

Range of delivery:
Manual loader and mounting bracket

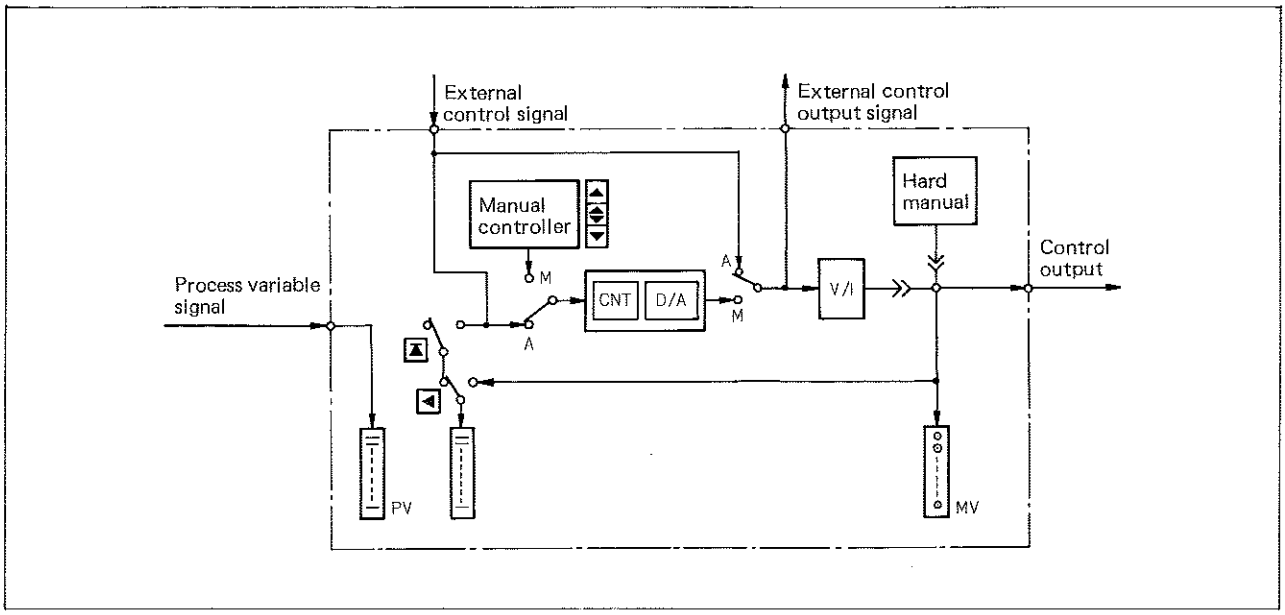
Mounting method:
Panel flush mounting
Standard; Vertical mounting
Nonstandard; Inclined mounting



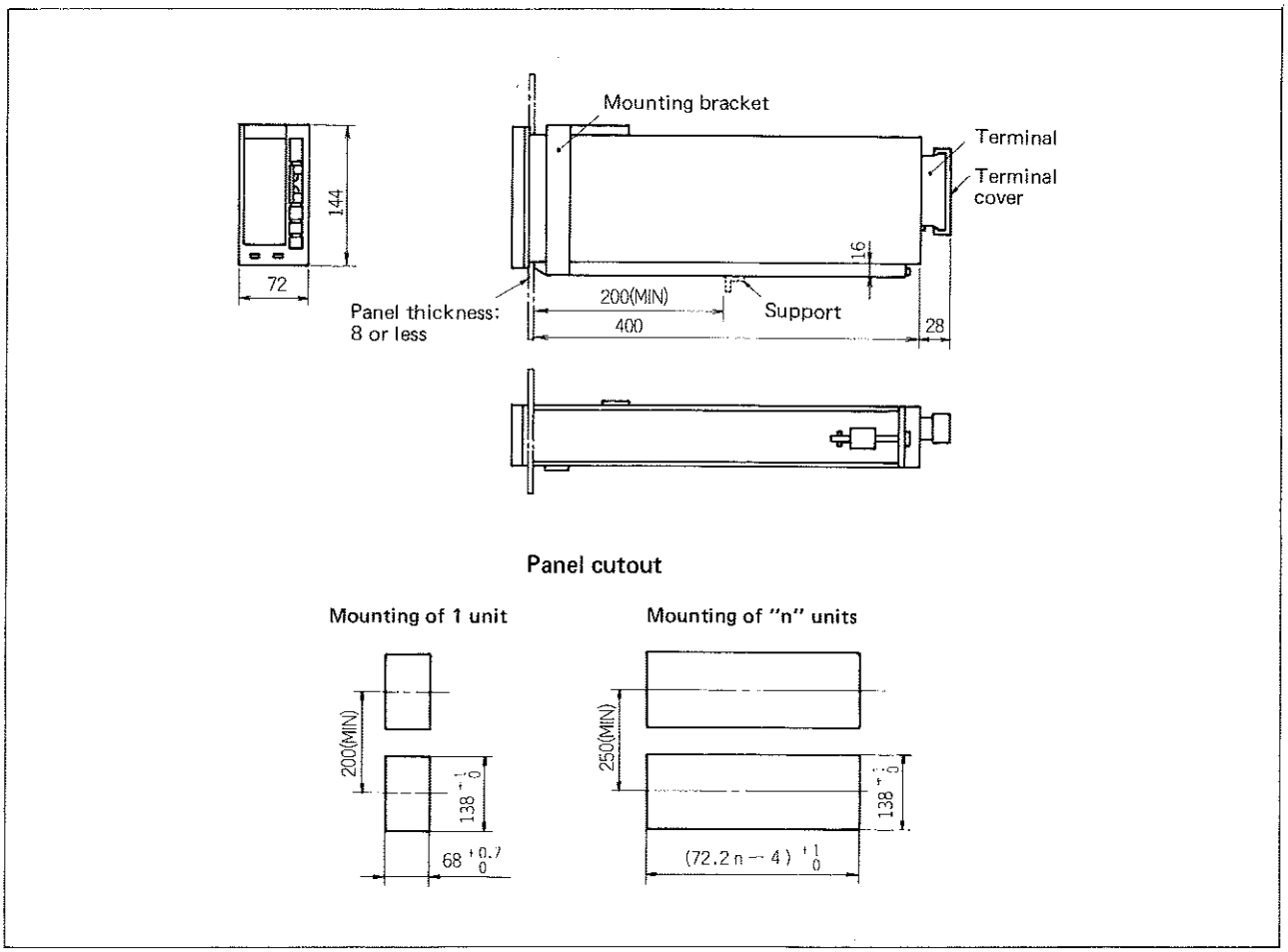
CODE SYMBOLS

PMB	0	3	–	0	0	Description
						Application and process variable indicator
	1Y					For remote control (manual control only) / Without
	1A					For remote control (manual control only) / With
	2Y					For auto-manual changeover / Without
	2A					For auto-manual changeover / With
		1				**Power supply** DC 24V
		3				AC 100V 50/60 Hz
				Y		**Hard manual operation unit** Without
				E		With

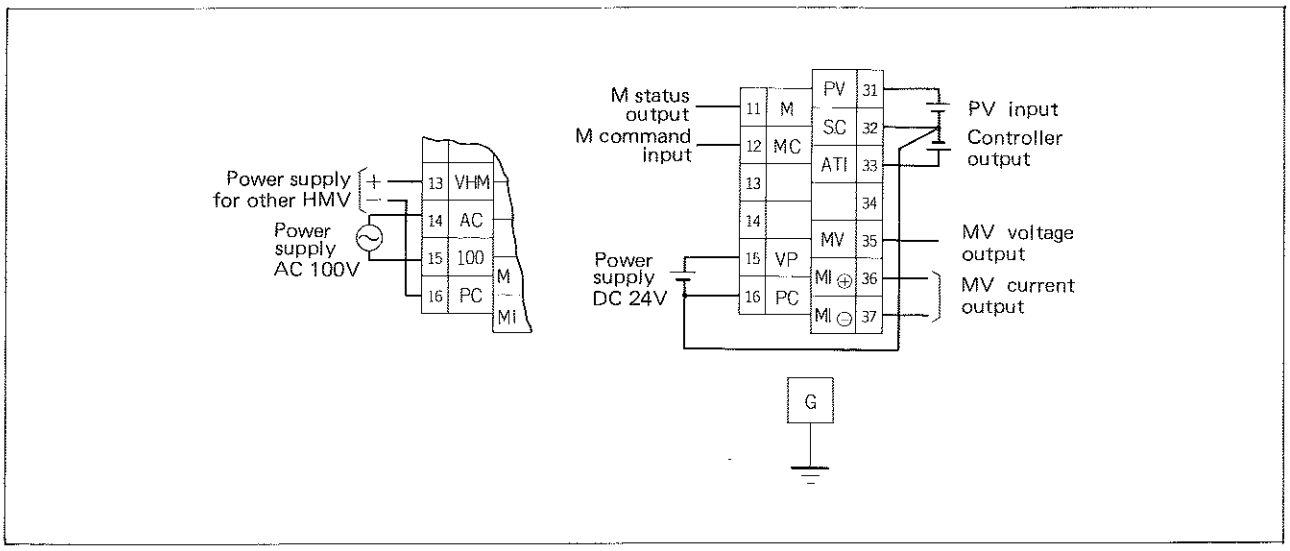
FUNCTIONAL DIAGRAM



EXTERNAL VIEW (Unit: mm)



CONNECTION DIAGRAM



Note) • Alteration reserved without notice.

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