INSTRUCTION MANUAL

WEB-ENABLED REMOTE TERMINAL UNIT | MODEL DL30

BEFORE USE ....

Thank you for choosing M-System. Before use, please check contents of the package you received as outlined below.
If you have any problems or questions with the product, please contact M-System's Sales Office or representatives.

■ PACKAGE INCLUDES:

Web-enabled remote terminal unit .....(1)

■ MODEL NO.

Confirm Model No. marking on the product to be exactly what you ordered.

■ INSTRUCTION MANUAL

This manual describes necessary points of caution when you use this product, including installation, connection and basic maintenance procedures.
For detailed explanations to operate this product, please refer to Users Manual (EM-8571-G), downloadable at M-System's web site: http://www.m-system.co.jp

POINTS OF CAUTION

■ CONFORMITY WITH EU DIRECTIVES

- The equipment must be mounted inside the instrument panel of a metal enclosure.
- The actual installation environments such as panel configurations, connected devices, connected wires, may affect the protection level of this unit when it is integrated in a panel system. The user may have to review the CE requirements in regard to the whole system and employ additional protective measures to ensure the CE conformity.

■ POWER INPUT RATING & OPERATIONAL RANGE

- Locate the power input rating marked on the product and confirm its operational range as indicated below:
  24V DC rating: 24V ±10%, approx. 18W

■ GENERAL PRECAUTIONS

- Before you remove the unit or mount it, turn off the power supply for safety.
- The unit is not hot swappable. When the unit is used in combination with R30 I/O modules, the R30 I/O modules also cannot be hot swapped.
- Before you remove the terminal block or mount it, turn off input signal for safety.

■ ENVIRONMENT

- Indoor use.
- When heavy dust or metal particles are present in the air, install the unit inside proper housing with sufficient ventilation.
- Do not install the unit where it is subjected to continuous vibration. Do not subject the unit to physical impact.
- Environmental temperature must be within 0 to 50°C (32 to 122°F) with relative humidity within 10 to 90% RH in order to ensure adequate life span and operation.

■ WIRING

- Do not install cables close to noise sources (relay drive cable, high frequency line, etc.).
- Do not bind these cables together with those in which noises are present. Do not install them in the same duct.
- Max. wiring length for FE terminal should be 3 m.
- Be sure to attach the terminal cover for safety.

■ ABOUT SD CARDS

- Do not turn off the power of the unit during writing data. Insert or eject an SD card according to the specified procedure.
- Confirm the front and back side when inserting an SD card to the unit.

■ CALENDAR CLOCK

- A backup battery is employed for calendar clock IC. Backup period without power supply is approx. 2 years.
- In order to prevent battery drain, battery back up is OFF at factory default. Turn it ON prior to start using.
- With power on, the battery is not drained. When total power off period is approx. 2 years, the battery cannot backup the calendar clock. The calendar clock cannot keep correct date and time.
- The battery is not replaceable by customer. When replacement is required, consult M-System.

■ AND ....

- The unit is designed to function as soon as power is supplied, however, a warm up for 10 minutes is required for satisfying complete performance described in the data sheet.

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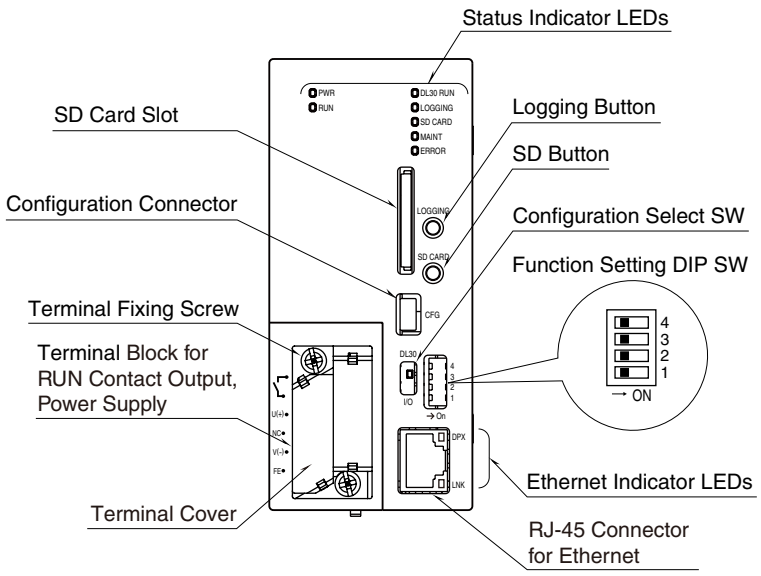
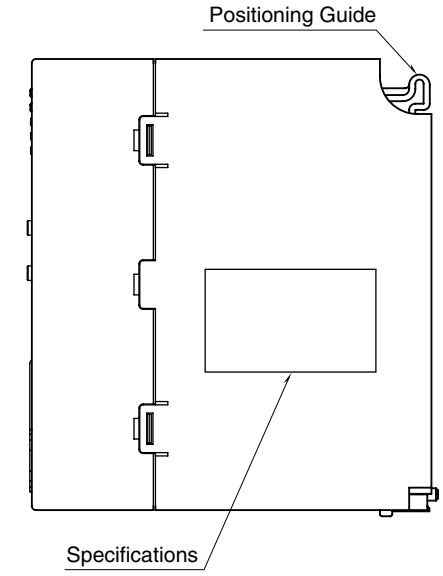
COMPONENT IDENTIFICATION

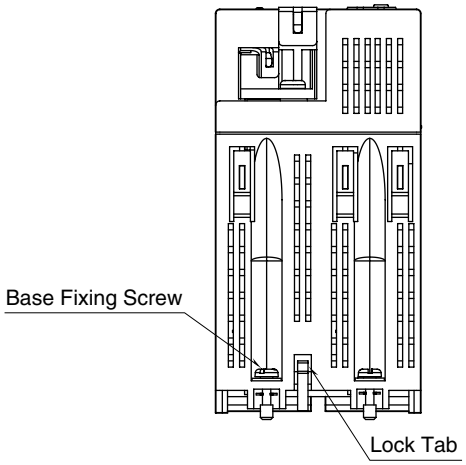
■ **FRONT VIEW**



■ **SIDE VIEW**



■ **BOTTOM VIEW**



■ STATUS INDICATOR LED

LED	COLOR	FUNCTION
PWR	Green	ON when power supply is on OFF when power supply is off
RUN	Green	ON in normal operation *1 OFF in abnormality (internal memory error, SD card error, R30 module error) *1
DL30 RUN	Green	ON after boot-up OFF in abnormality (IP address unassigned) Blinking while the DL30 module is in communication.
LOGGING	Green	OFF when logging is stopped. ON while logging
SD CARD	Green	ON when SD card is recognized. Blinking while the SD card is being accessed. OFF when SD card is not recognized or removed.
MAINT	Orange	ON when the mail reporting is disabled or in the maintenance mode. OFF in normal operation
ERROR	Red	Blinking in abnormality (internal memory error, SD card error, R30 module error) *1 OFF in normal operation *1

*1. RUN contact output turns on in normal operation, and turns off when the power is not supplied or in abnormality (internal memory error, SD card error, R30 module error).

■ ETHERNET INDICATOR LED

LED	COLOR	FUNCTION
DPX	Green	ON during full duplex transmission
LNK	Amber	ON while link is established.

■ CONFIGURATION SELECT SW

(*) Factory setting

SW POSITION	CONFIGURATION OBJECT
DL30	DL30 configuration (*)
I/O	R30 I/O modules configuration

■ DIP SW

(*) Factory setting

• DL30 CONFIGURATION USB CONNECTION SETTING

SW1	DL30 CONFIGURATION USB CONNECTION
OFF	DL30GCFG
ON	Terminal software program

• MAIL REPORTING SETTING

SW2	MAIL REPORTING
OFF	Enable (*)
ON	Disable

• MAINTENANCE MODE SETTING

SW3	MAINTENANCE MODE
OFF	Disable (*)
ON	Enable (Logging and e-mailing halted)

• CALENDAR CLOCK BATTERY BACKUP SETTING

SW4	CALENDAR CLOCK BATTERY BACKUP
OFF	Disable (*)
ON	Enable

Note: In order to prevent battery drain, battery back up is OFF at factory default. Turn it ON prior to start using.

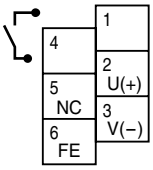
■ LOGGING BUTTON

Pressing and holding 1 second starts and stops logging.

■ SD BUTTON

Pressing and holding for 4 seconds turns SD CARD LED off and makes the card removable.

■ TERMINAL ASSIGNMENT

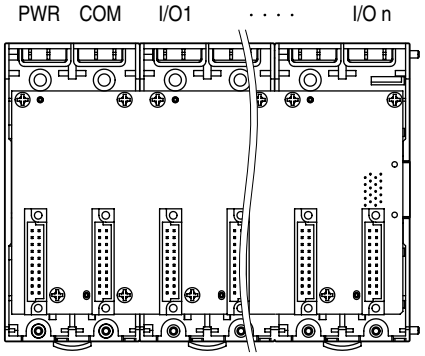


NO.	ID	FUNCTION
1	RUN contact output	RUN contact output
2	U (+)	Power supply (24 V DC)
3	V (-)	Power supply (0 V DC)
4	RUN contact output	RUN contact output
5	NC	Not used
6	FE	Functional earth

INSTALLATION

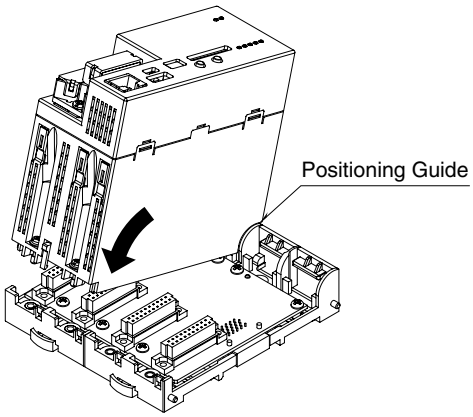
■ INSTALLATION TO THE BASE

Use the Installation Base Model: R30BS.
Mount the unit to the PWR and COM slot in the base.

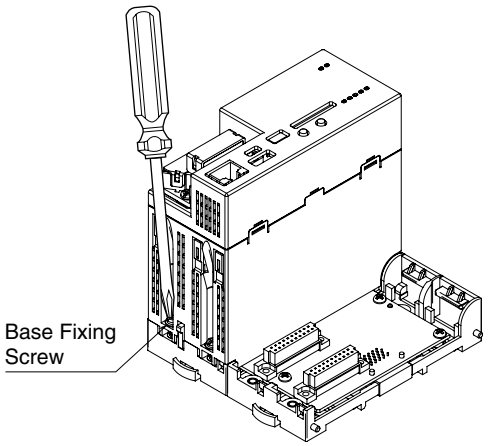


■ HOW TO MOUNT THE MODULE ON THE BASE

1) Engage the positioning guide of the module with the Installation Base.
2) Pivot the module on the positioning guide and press it down until the lock tab sits into place.

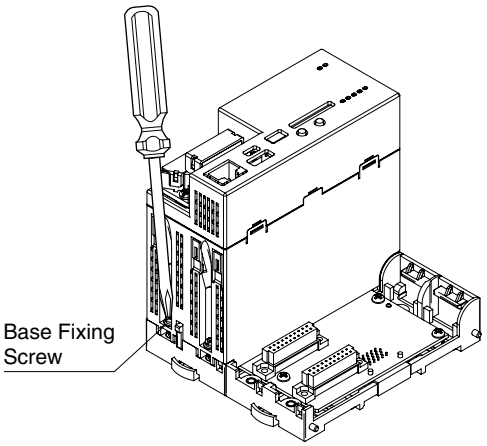


3) Tighten the base fixing screw with a screw driver (stem length: 70 mm/2.76" or more) (torque 0.5 N·m)

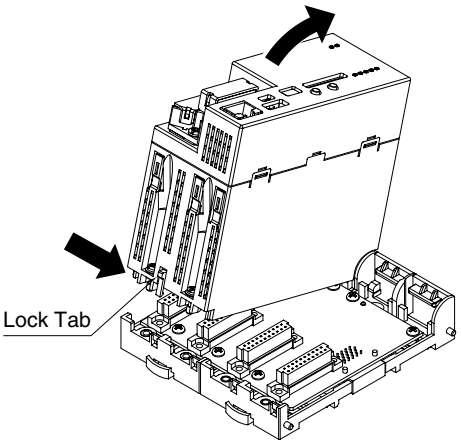


■ HOW TO REMOVE THE MODULE

1) Loosen the base fixing screw with a screw driver (stem length: 70 mm/2.76" or more).



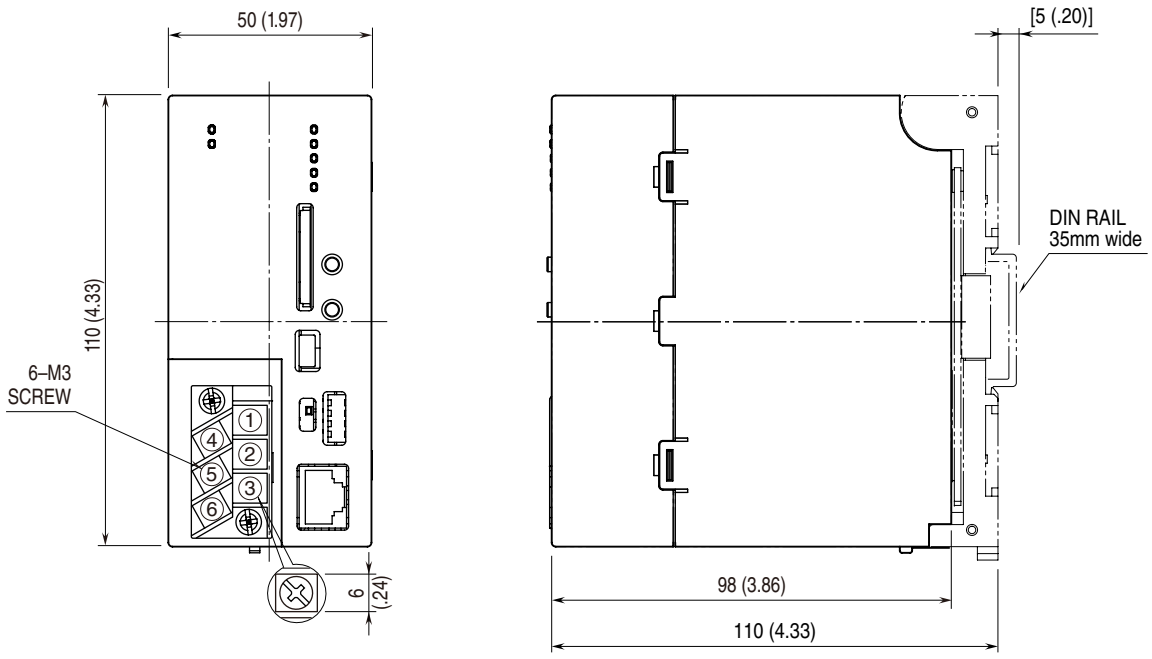
2) While pressing the projection on the lock tab, push the module upward.
3) Detach the positioning guide of the module from the Installation Base.



TERMINAL CONNECTIONS

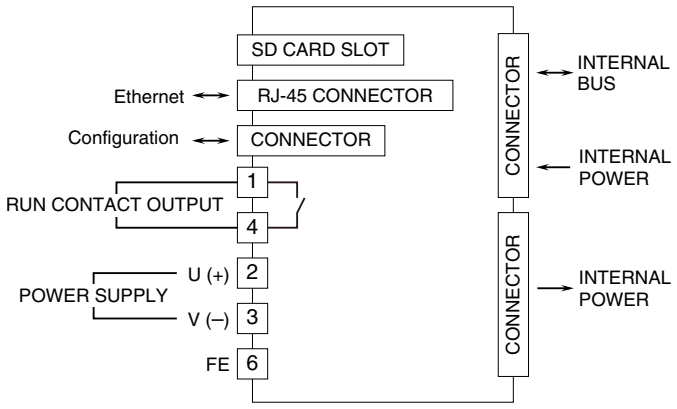
Connect the unit as in the diagram below.

■ EXTERNAL DIMENSIONS unit: mm (inch)



■ CONNECTION DIAGRAM

In order to improve EMC performance, bond the FE terminal to ground.
Caution: This terminal is NOT a protective conductor terminal.



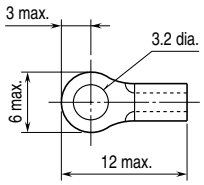
WIRING INSTRUCTIONS

■ TORQUE

Wiring screw for separable terminal: 0.5 N·m
Fixing screw for separable terminal: 0.5 N·m

■ SOLDERLESS TERMINAL unit: mm (inch)

Refer to the drawing below for recommended ring tongue terminal size.
Spade tongue type is also applicable.
Solderless terminals with insulation sleeve do not fit.
Recommended manufacturer: Japan Solderless Terminal MFG.Co.Ltd, Nichifu Co.,Ltd
Applicable wire size: 0.25 – 0.75 mm^2



■ HOW TO REMOVE THE SEPARABLE TERMINAL

The separable terminal of the unit is 2 piece constructions.
It is possible to remove the terminal by loosening two screws of terminal alternately.