Logic IO
www.logicio.com

Technical Manual for the Mobile Data Terminal

Version 1.00

Logic IO
www.logicio.com
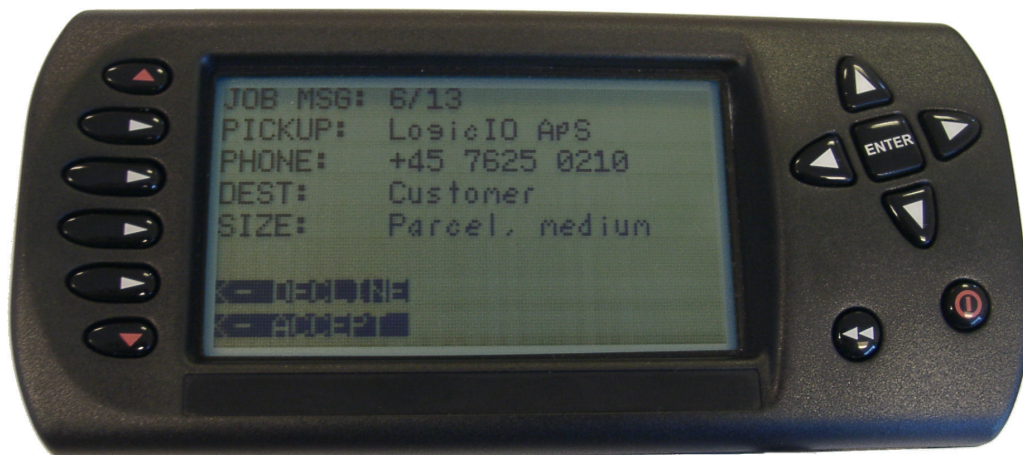
Introduction

This manual contains technical documentation allowing easy installation and use of the unit. For programming information please consult the RTCU Programming Documentation and/or the RTCU IDE Online help.

The Mobile Data Terminal (MDT) extends the RTCU units (MX2 / M11 series) with a flexible and easy-to-use user interface solution with many advanced features, allowing all kinds of two-way messaging applications to be implemented.
The MDT is robust, field proven, and is packed to survive thermal extremes and vibrations.

The MDT is easily connected to the RTCU units and includes the following features:

- High contrast graphic Liquid Crystal Display (LCD)
- 8 lines, 26 characters per line
- 13 tactile, user definable keys
- Built in piezo buzzer
- 10 user selectable backlight levels
- Two easy mounting options
- High-level VPL library
- Full simulator support in RTCU-IDE
- Built for tough environments
- Easy vehicle installation
- MDT on/off and standby functionality

Table of Contents

Logic IO
www.logicio.com

Graphical view

JOB MSG: 6/13
PICKUP: LogicIO ApS
PHONE: +45 7625 0210
DEST: Customer
SIZE: Parcel, medium

7 tactile keys

6 tactile keys

Large easy-to-read display (8 x 26)

Interface cable

Figure 1: Front view

M3 Brass insert

M3 Brass insert

M3 Brass insert

M3 Brass insert

Connector 2

Slot for suction bracket cup

Figure 2: Backside view

Logic IO
www.logicio.com
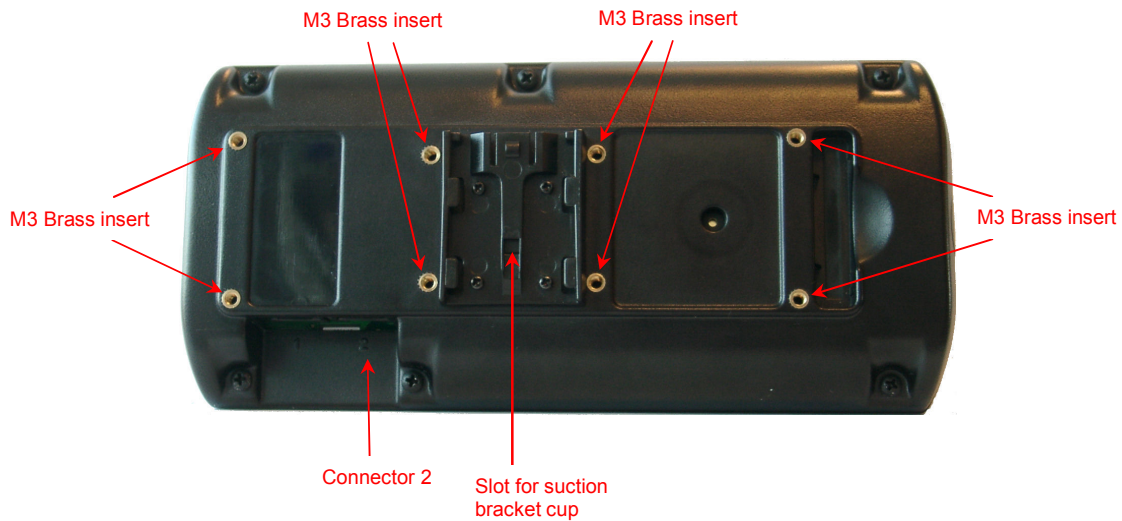
External connections

Overview
The MDT uses a serial interface to communicate with the RTCU unit. Supply for the MDT is also fed into the serial connector on the MDT. On the unit are two RJ-45 connectors, only connector '2' is in use at the moment.

Connector '1'
Not used.

Connector '2'
The unit needs an external DC power source this has to be connected to the interface cable. The supply voltage must be 10-30VDC and connected to the red (positive) and black (ground) wires on the interface cable.

Installation

The interface cable provided in the MDT package is made by Logic IO. The external supply wires and data signal **blue (MX2) / grey (M11)** cable are wired into one (**black**) cable to the MDT unit. The total length of the cable is ~3.5m see the figure 3 below for details.
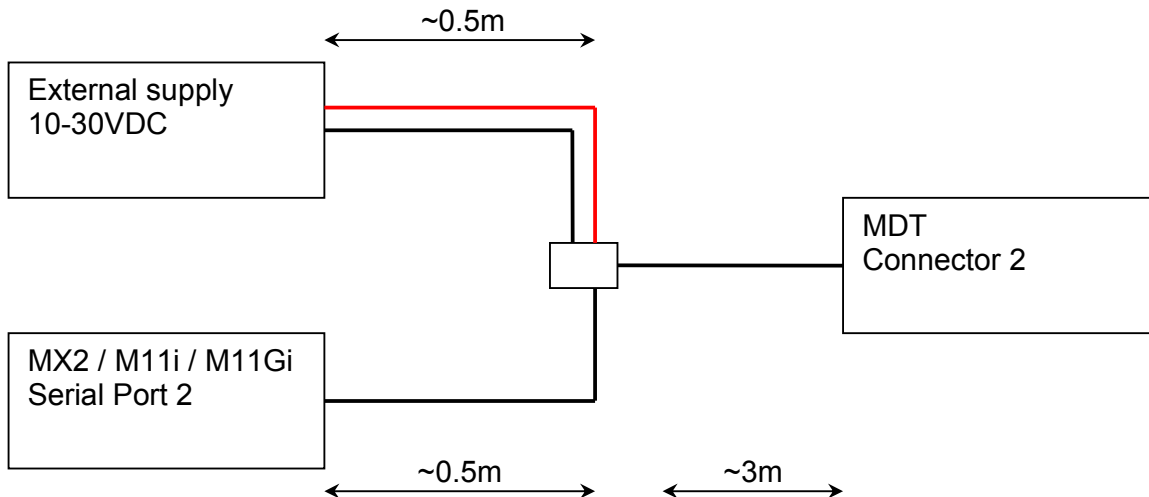
~0.5m

External supply
10-30VDC

MDT
Connector 2

MX2 / M11i / M11Gi
Serial Port 2

~0.5m   ~3m

Figure 3: MX2 Cable dimensions

MX2

The **blue** cable must be inserted into serial port 2 on the MX2 unit, the **black** must be inserted into connector '2' on the MDT unit, see figure 2 for placement of connector '2' on the MDT. For further information on external connections on the MX2, see MX2 Technical Manual.
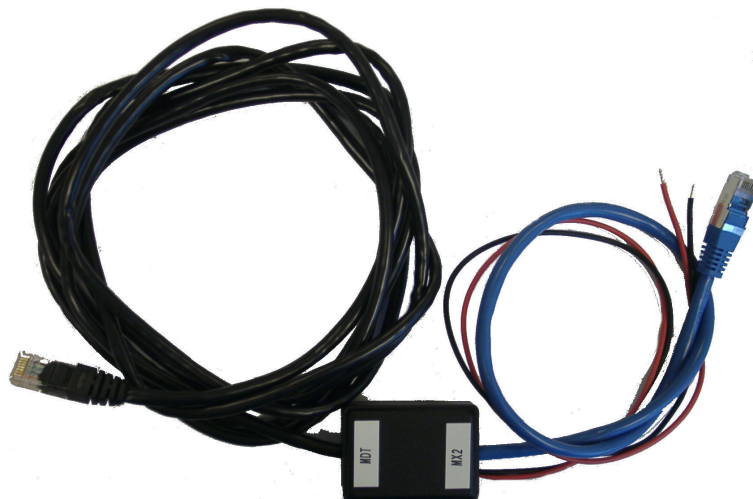

Figure 4: MX2 Cable

M11i Series

The grey cable must be inserted into serial port 2 on the M11i/M11Gi unit, the **black** must be inserted into connector '2' on the MDT unit, see figure 2 for placement of connector '2' on the MDT. For further information on external connections on the M11 series, see the appropriate M11i Series Technical Manual.
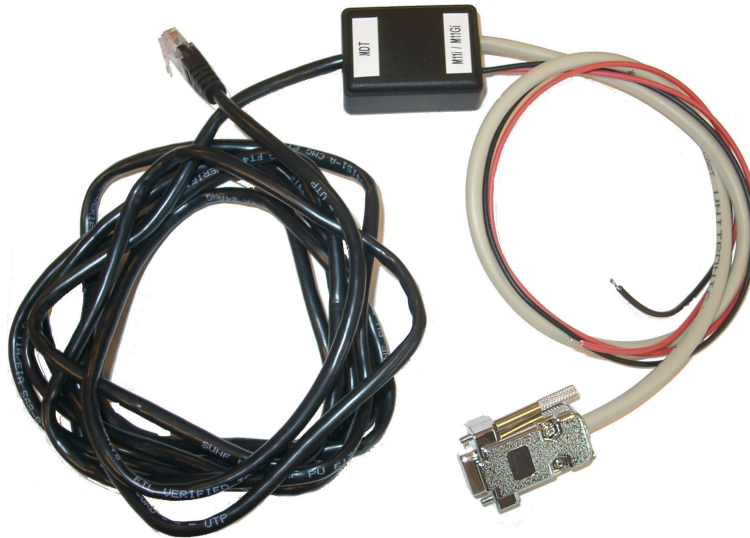

Figure 5: M11i / M11Gi Cable

Power and standby modes

The MDT has two power modes with different behaviors and power consumption:

- **Power**: Controls the DC supply for the MDT, if turned off it's not possible to resume operation by using the power-key. The MDT can only be turned on again from the VPL application running in the RTCU unit.
  Power savings are at maximum in this state.

- **Standby**: In standby mode the MDT will enter a power-saving mode where the LCD-display is turned off to save power. In this mode the MDT can still send the power-key events to the RTCU unit and therefore on user request resume normal operation.
  Power savings are minimal in this state.

For more information on this subject please consult the RTCU Programming Documentation and/or the RTCU IDE Online help.

Mounting

There are two ways to mount the MDT unit these are described below.

Flexible suction cup.
1. Match the two slides on the bracket to the corresponding slots on the back of the MDT unit until they firmly latch into place.
2. Find a smooth surface and clean it thoroughly.
3. Press the suction cup firmly to the surface while pulling the lever down to seal the suction cup.
4. Hold the bracket base and bend the stalk to adjust the viewing position.

M3 mounting holes.
The brass inserts on the backside can be used to mount the MDT on a custom made bracket. There are eight M3 mounting holes available, see figure 6 below for guidance. Be careful not to over tighten the screws as driving the screws in too far may cause damage, therefore use M3x6mm screws.
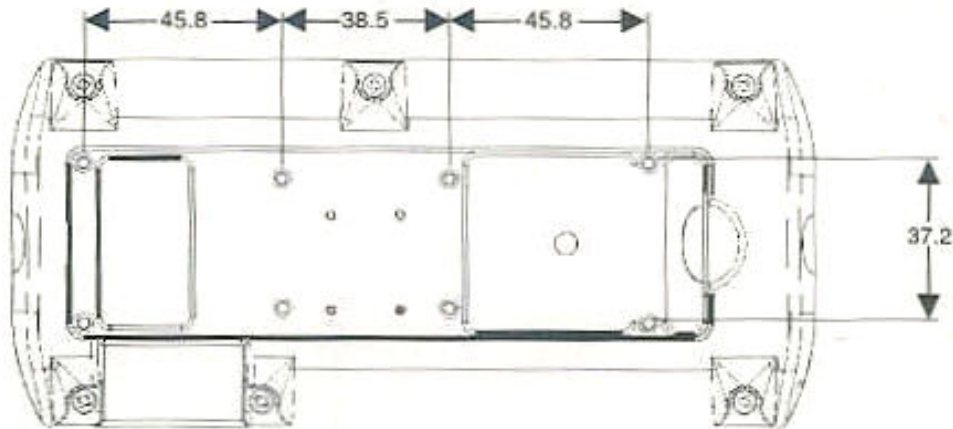

Figure 6: M3 brass insert placements

Logic IO
www.logicio.com

Specifications for the Mobile Data Terminal

Power supply		Min	Typ	Max		
Operating Voltage		10	-	30	VDC	
Unit in Power OFF mode Unit in Standby mode Unit ON with full backlight				0 40 70	mA mA mA	Currents are measured @ 12VDC
Storage temperature		-40	-	+85	ºC	External interface: • RJ45 for seriel interface and power supply • Comes with interface cable for either the RTCU MX2 or RTCU M11 / M11i Series.
Operating temperature		-25	-	+60	ºC	
Humidity				95	%	
Weight		0.226			Kg	
External dimensions		W 185 x H 85 x D 32 mm				Without mounting brackets
Enclosure		UV stabilized, high-temperature resistant				
Piezo buzzer	Sound level	80	-	90	dB	Measured 1m in front of unit
	Frequency		1		kHz	
LCD	Lines	8				
	Characters/line	26				
	Pixel resolution	160 x 80				