

HT102

User terminal



Summary

HT102 is a human-machine interface for monitoring and control of multiple mark controllers with Merbon runtime. It has one Ethernet interface.

Application

- Control panel for free-programmable control units for HVAC systems or other technologies
- Terminal for receptions and rough environments – overview and control of remote technologies

Function

The terminal is controlled by six buttons and LCD display 4x20 characters with backlight. The communication interfaces is Ethernet (web configuration or SoftPLC). The program status is indicated by RUN LED located at the back panel together with the Power indication LED. For default IP address set the DIP SW3 to ON and power the device; at the same time, the menu file is not loaded and the terminal is ready for diagnostics (INIT state). DIP SW4 disables the web interface and FTP access – this may be used for increased network security.

After menu upload and restart, the display shows menu with tree structure (maximum 32 items in one submenu and 56 time schedules) and the terminal starts to communicate with the process devices. Maximum number of Merbon RT connections is 8. Users move in the menu using buttons – the **active line is the second** from the top, which is enhanced by the red line on the printed cover. Objects such as Value setting, Alarm, and Time schedule have predefined functionality, and thus for the configuration it is only necessary to set addresses, assign data points, and complete user texts.

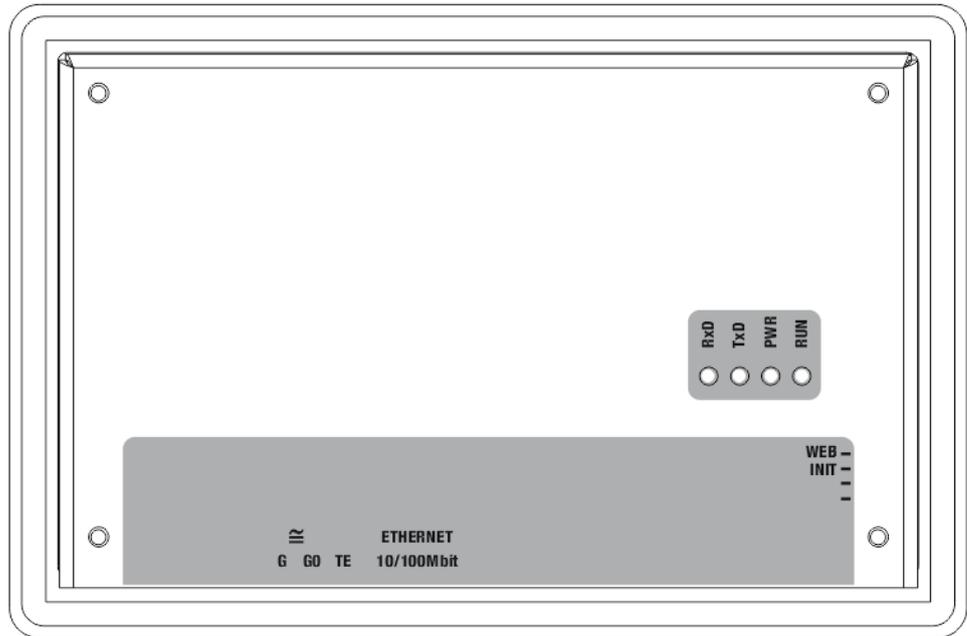
The menu is uploaded to the terminal Flash memory either through Merbon HMI Editor, or over FTP protocol into the file system of the terminal over the Ethernet interface. A file named J.txt is uploaded. The default IP address is 192.168.1.99.

The device is installed using four metal clamps into an aperture in panel door or any suitable box. The aperture dimensions are 93 x 145 mm, with tolerance +2 mm.

Technical data

Power	24 V AC/DC \pm 10%; 3 W
Communication	1x Ethernet 10/100BaseT
LCD display	4 rows x 20 characters, blue backlight
Buttons	6 buttons on a membrane keyboard, water and dirt resistant
4x LED	RUN, PWR, RS485 RX/TX (are not supported for this type)
Ethernet	Ethernet 10/100BaseT, RJ45
Number of connections	max 8 connections Merbon RT
HW	ARM Cortex M4 168 MHz, 10 MB FLASH, 256 KB SRAM, 4 KB NVRAM
SW	Merbon HMI editor (since version 2.2.0.0 ER2) maximum number of time schedules 56 maximum number of submenu 32
Front panel dimensions	see schema below
Aperture dimensions	see schema below
Protection degree	IP65 (EN 60529)
Recommended wire diameter	0,35 - 1,5 mm ²
Ambient temperature	0 – 60 °C
Standards conformity	EMC EN 61000-6-2 ed.3:2005, EN 55022 ed.3:2010 EN 60950-1 ed.2:2006 + A11:2009 + A12:2011 + A1:2010 + A2:2014 EN 50581:2012
EU legislation	Council Directive 2006/95/EC, health and low voltage equipment safety Council Directive 2004/108/EC, electromagnetic compatibility Council Directive 2011/65/EC, certain hazardous substances in electrical and electronic equipment

Terminals



Terminals and connectors:

G	power
GO	power
TE	optional connection for shielding
Ethernet	network interface

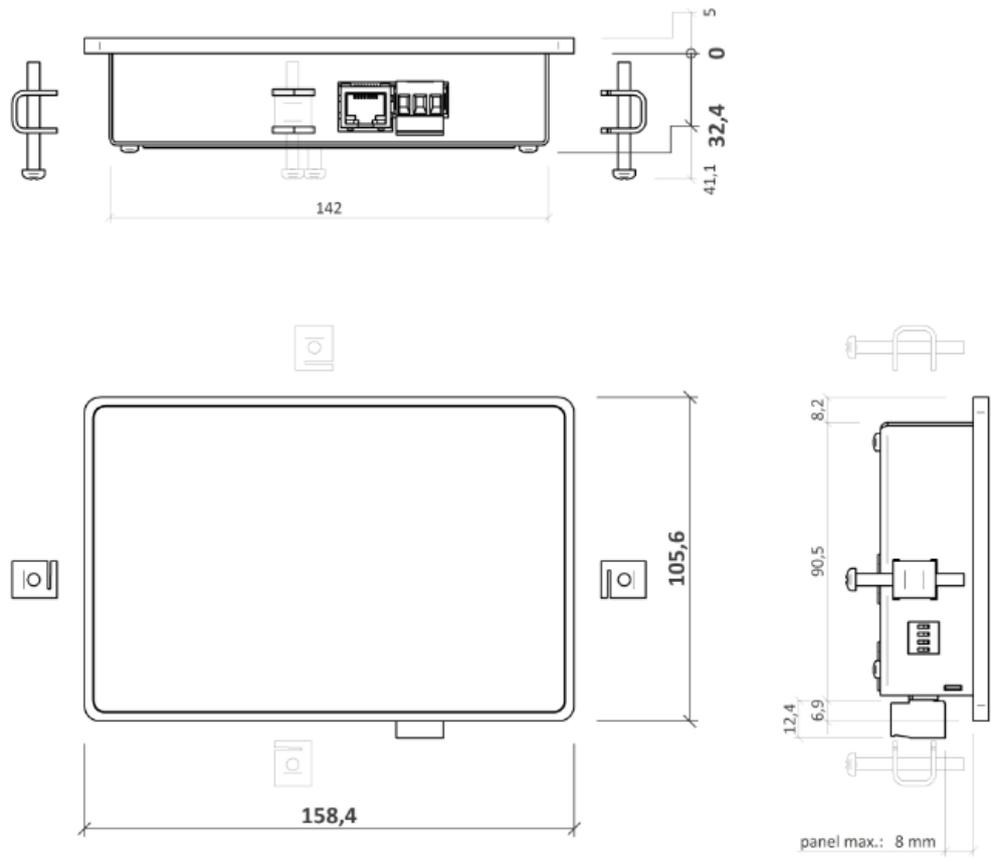
LED indication:

RxD	not used
TxD	not used
PWR	green LED – power (ON: power OK; OFF: no power applied, weak or damaged power supply, ...)
RUN	yellow LED – system cycle (OK: LED flashes periodically 1 s ON, 1 s OFF; ERROR: LED flashes in other pattern, LED is still ON or OFF)

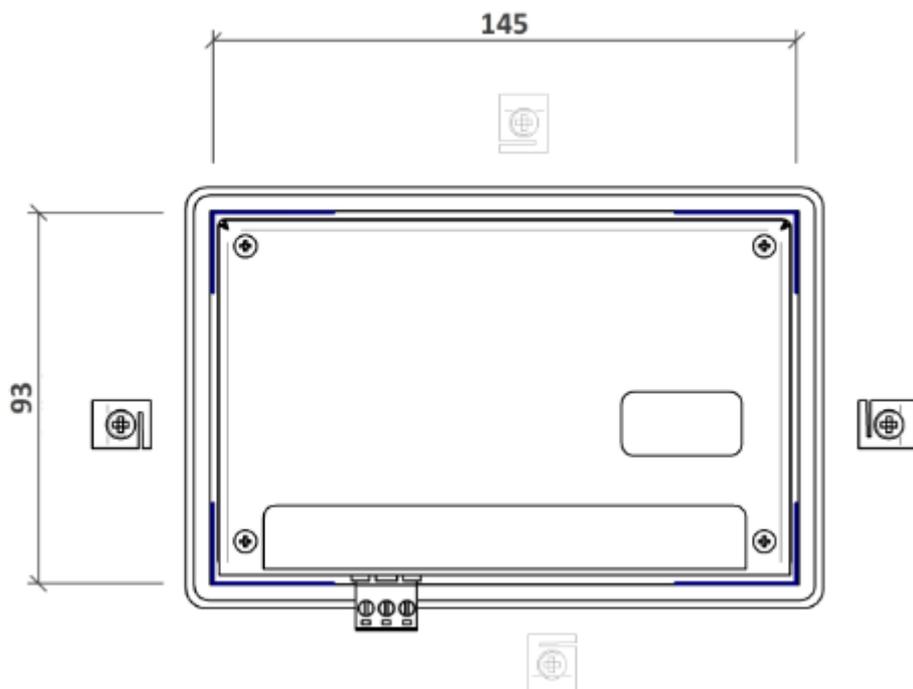
DIP switches:

DIP1 and 2	not used
INIT	INIT - Switch DIP ON, switch OFF/ON power supply. Menu is not displayed and IP is set to default 192.168.1.99, mask 255.255.255.0
WEB	web and FTP disabled – increased network security

Dimensions



Installation aperture:



Dimensions are in *mm*.

Configuration

The menu definition is uploaded in terminal through Merbon HMI Editor or through web interface. Other settings could be configure through service web.

Merbon HMI editor

The process of creation a menu and uploading menu definition are described in Merbon IDE help in chapter HMI.

Service web

The HT102 service web can be accessed over a web browser on the device IP address (the browser PC must be in the same network). In Settings there is network configuration. It is possible to upload/download the menu definition and upload new version of HT102 application.

Communication

The default network settings are:

IP address	192.168.1.99
subnet mask	255.255.255.0
default gateway	192.168.1.1

User for FTP: root
Password for FTP: root99

Notice: Do not forget to note the new network settings after change!

RoHS notice

The device contains a non-rechargeable battery which backups the real-time clock and part of the memory. After the device is not operable, please return it to the manufacturer or dispose of it in compliance with local regulations.

**Changes in
versions**

05/2016 – First version.

06/2016 – Added chapter Configuration and Communication.