HT101 User terminal

Summary **HT101 is a human-machine interface for monitoring and control of multiple MiniPLC, IPCT.1, IPCB.1 controllers, or other SoftPLC runtimes working on different platforms. It has one Ethernet interface. This type has more memory compared to HT100.**

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 4×20 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 (192.168.1.82) 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 SoftPLC 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 SoftPLC Touchscreen 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.

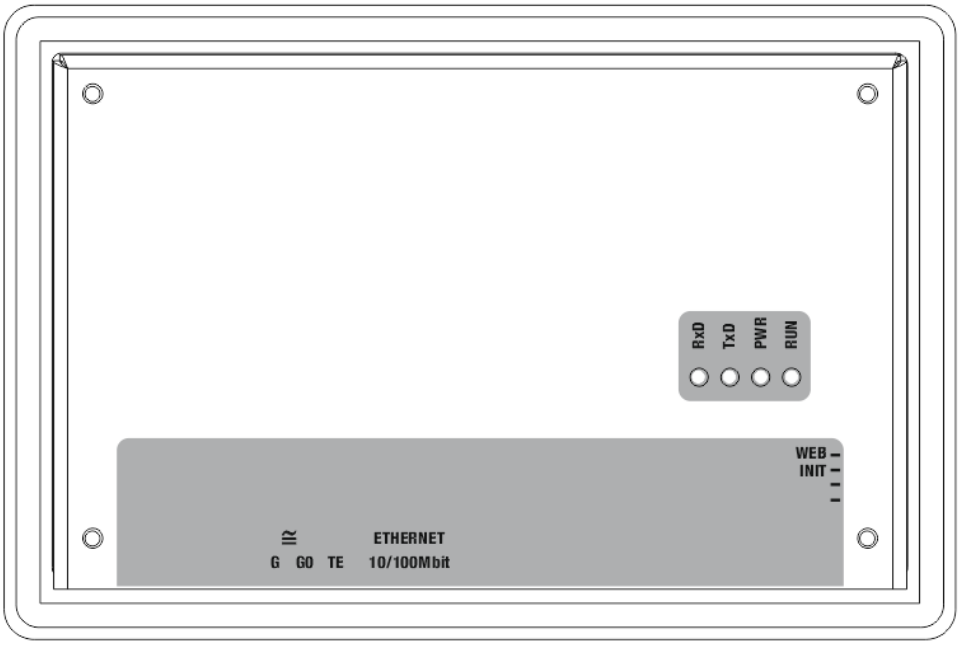
The device is installed using four metal clamps into an aperture in panel door or any suitable box. The aperture dimensions are 93 × 145 mm, with tolerance +2 mm.

Application examples: see *domat – Design and application guide*.

Technical data

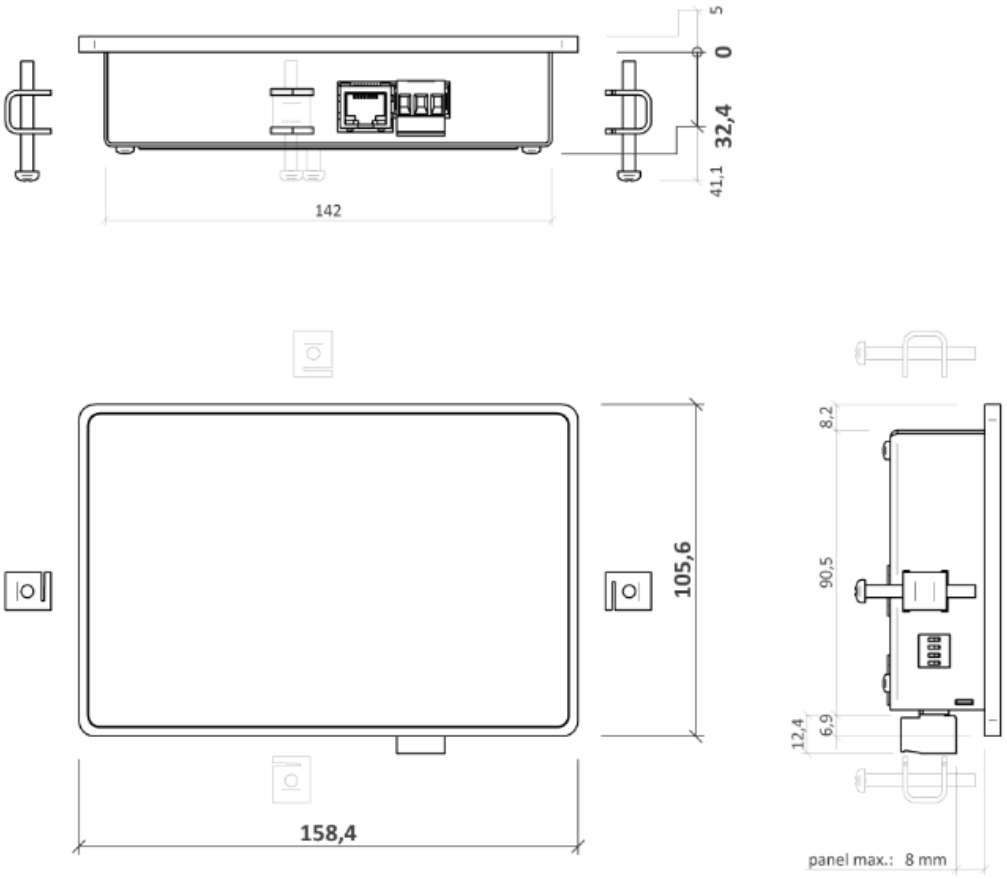
Power	24 V AC/DC ± 10 %; 3 W
Communication	1× Ethernet 10/100BaseT
LCD display	4 rows × 20 characters, blue backlight
Buttons	6 buttons on a membrane keyboard, water and dirt resistant
4× LED	RUN, PWR,
Ethernet	Ethernet 10/100BaseT, RJ45
Number of connections	max 8 connections SoftPLC RT
HW	ARM Cortex M4 168 MHz, 10 MB FLASH, 256 KB SRAM, 4 KB NVRAM
SW	SoftPLC Touchscreen editor (since version 2015/4/15) 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

Terminals

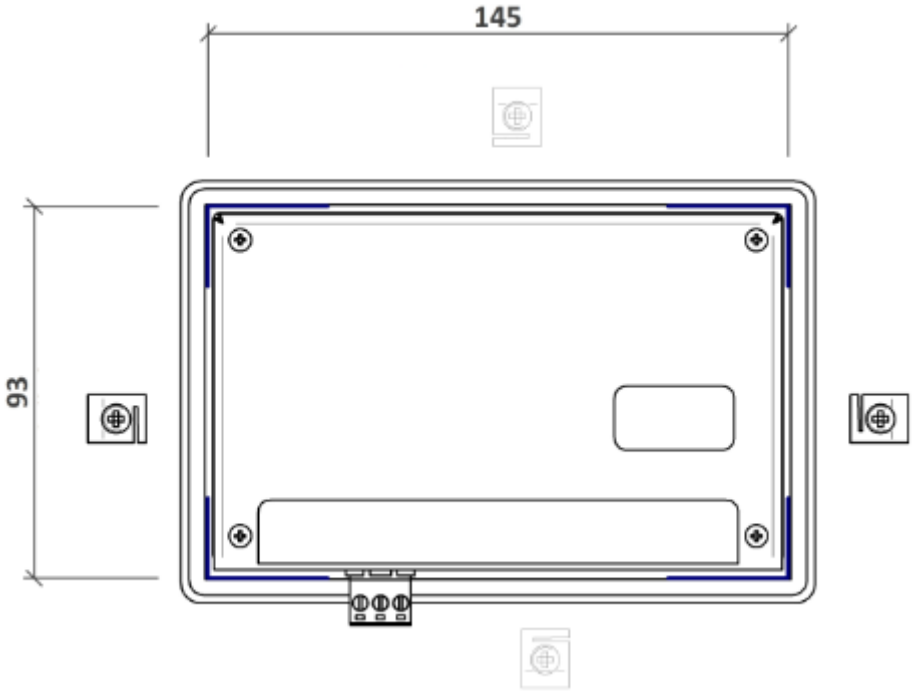


Terminals and connectors	
G	power
G0	power
TE	optional connection for shielding
Ethernet	network interface
LED indication	
RxD	not used
TxD	not used
PWR	green LED – power (ON: power OK; OFF: no power applied, weak or damaged power supply, …)
RUN	yellow LED – system cycle (OK: LED flashes periodically 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

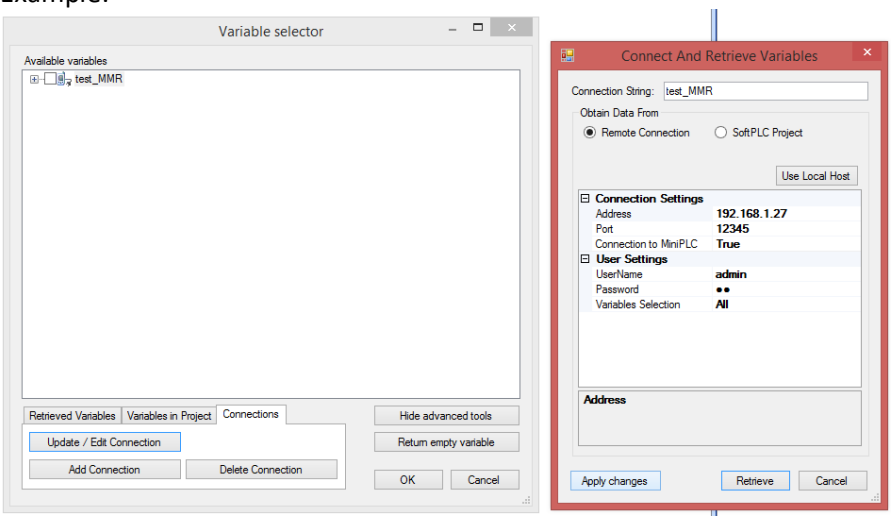
The menu definition is uploaded in terminal through RcWare HMI Editor or through web interface. Other settings could be configure through service web.

RcWare HMI Editor

Create the HT101 menu definition. The principles of creation menu are described in the LCD menu manual: http://domat-int.com/en/downloads/technical-documentation , RcWare SoftPLC Touch Screen Editor.

Note:
The connection parameters to a particular PLC must be correctly set. The terminal needs to know from which PLC the variables should be read. The connection settings is defined in File -> Variables Manager -> select a connection and Show advanced tools -> Connections -> Update / Edit Connection. After uploading the list of variables in the HMI project, the connection must be set as Remote Connection and correct communication parameters must be entered. The changes must be confirmed by the Apply changes button.

Example:



The whole definition can be finally uploaded through File -> Upload menu definition to HT100/101. The editor creates a .txt definition file and uploads it to the device using FTP protocol. The correct IP address, user and password for FTP must be set (see below). As an alternative, it is possible to File -> Export menu definition for HT100/101 and create .txt definition file which can be uploaded through the HT101 web pages. After uploading menu definition the device must be restarted for the changes to apply.

Service web

The HT101 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 HT101 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!

WEEE 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.

Safety notice The device is designed for monitoring and control of heating, ventilation, and air conditioning systems. It must not be used for protection of persons against health risks or death, as a safety element, or in applications where its failure could lead to physical or property damage or environmental damage. All risks related to device operation must be considered together with design, installation, and operation of the entire control system which the device is part of.

Changes in versions	07/2015 – First version. 05/2016 – Changed terminals labels. Added schema with dimensions. 06/2016 – Added chapter Configuration and Communication. 07/2021 – Stylistic adjustments, logo change.