domat
control system

HT100, HT110 User terminal

Summary

HT100 is a human-machine interface for monitoring and control of multiple Mi-niPLC, IPCT.1, IPCB.1 controllers, or other SoftPLC runtimes working on different platforms. It has one Ethernet interface. The HT110 contains firmware for Modbus TCP and Modbus RTU communication and can be used as an interface for UC... controllers or any devices communicating over Modbus TCP protocol.

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, Modbus TCP or SoftPLC). The RS485 communication is indicated by 2 LEDs located at the back panel together with the Power indication LED. RS485 Bus End is switched on by the DIL switches 1 and 2. For default IP address (192.168.1.82) set the 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). SW4 disables the web interface and FTP access – this may be used for increased network security.

After menu upload and restart, the disúplay shows menu with tree structure (maximum 32 items in one menu) and the terminal starts to communicate with the process devices. 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. The default IP address is 192.168.1.99.
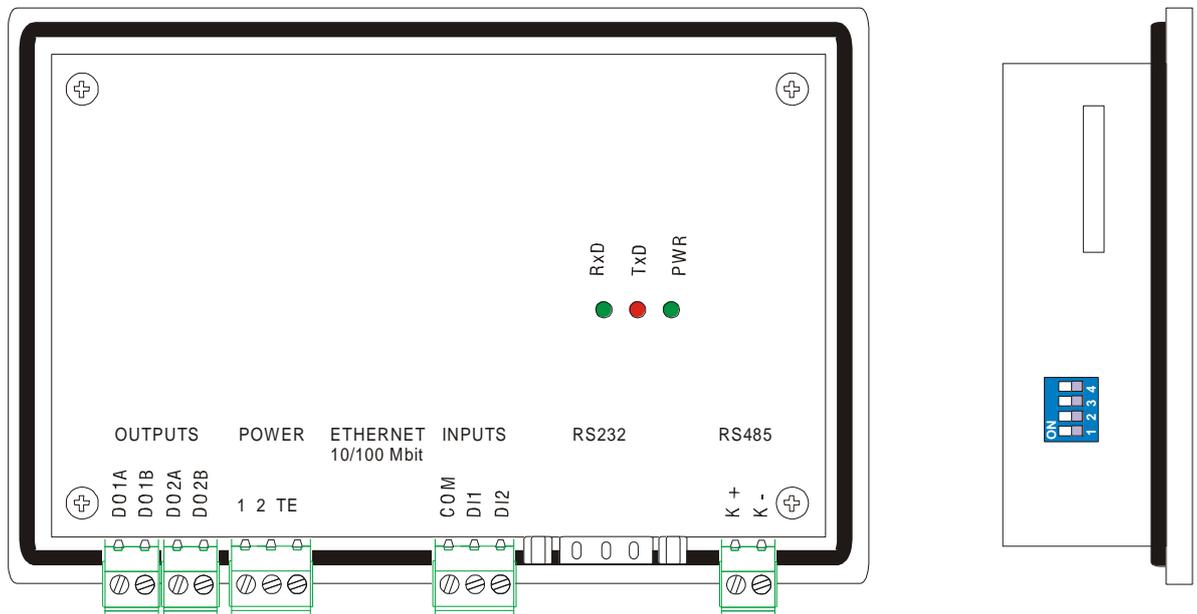
The device is installed using three metal clamps into an aperture in panel door or any suitable box. The aperture dimensions are 95 x 145 mm, with tolerance +2 mm.

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

Technical data

Power	10 V ÷ 35 V DC, 14 V ÷ 24 V AC (terminals 1,2, any polarity) *or* PoE (Power over Ethernet)
Consumption	1.7 VA
Working temperature	0 ÷60°C
Protection class	IP65 front panel mounted in the front door
Communication	Ethernet 10/100BaseT, RJ45 RS232 (CANNON 9 M), 300 ... 115 200 bit/s (signals RxD, TxD, RTS, CTS, GND) RS485, 300 ... 115 200 bit/s, optically separated
LCD display	4 rows x 20 characters, blue backlight
Buttons	6 buttons on a membrane keyboard, water and dirt resistant
RS485 Max. bus length Integrated Bus End resistors	1200m DIL switch (switches 1 and 2)
Dimensions	158 (w) x 106 (b) x 38 (h) mm
Aperture dimensions	95 x 145 mm (with tolerance +2 mm)

Terminals

DO1A	reserved	
DO1B	reserved	
DO2A	reserved	
DO2B	reserved	
1	power, any polarity	
2	power, any polarity	
TE	optional shield connection	
Ethernet	network interface	
COM	reserved	
DI1	reserved	
DI2	reserved	
RS232	reserved, serial interface RS232	
K+	reserved, RS485, positive	
K-	reserved, RS485, negative	
RxD	green LED - RS485 receive	
TxD	red LED - RS485 transmit	
PWR	green LED – power	

DIL switch

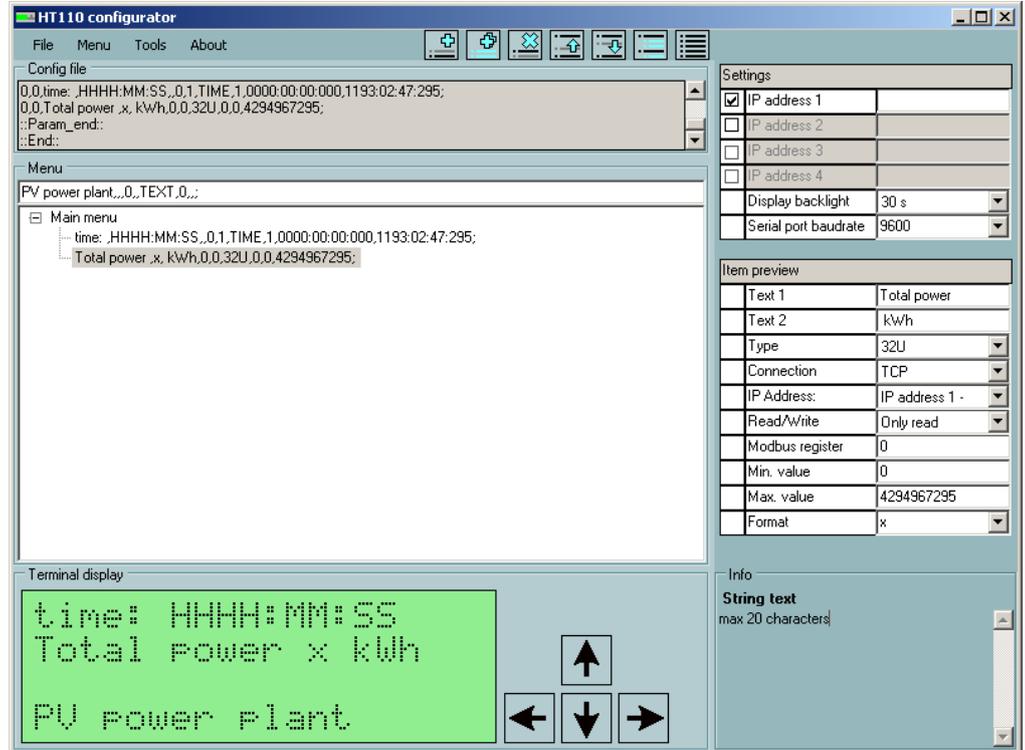|	
1	RS485 bus end
2	RS485 bus end
3	INIT – menu is not displayed, default IP 192.168.1.99, mask 255.255.255.0
4	web and FTP disabled – increased network security

The serial ports, DO... and DI... terminals are not used in the currect release, they are reserved for future extensions.

Types and their properties	**HT100**	SoftPLC protocol for up to 4 runtimes (process stations)
	HT110	Modbus RTU or Modbus TCP protocol

Modbus HT110 configurator

For Modbus RTU / Modbus IP menu definition, there is a comfortable free tool – HT110 configurator.

HT110 Configurator – Main working area

Related products	**IPLC201, 301**	MiniPLC process stations
	IPCT.1	touch screen process stations
	IPCB.1	process stations with no HMI
	UC...	communicative room controllers (Modbus RTU)
	GPRS	GPRS router for internet connectivity
	M035	Modbus RTU / Modbus IP router

05/2014 Subject to technical changes.