



## **TD240** Touch-screen HMI 3,5" 256colors, integrated PLC

HMI with soft-PLC, available in two different versions. Basic model HMI + soft-PLC requires external modules MCM260 or other Modbus devices (controllers-actuators-sensors) as I/O. A compact version features analogue and digital resources already on board, integrating HMI and PLC in a single device (expansion modules MCM260 may be used if additional I/O are required).

Development environments Pixsys PLprog and TDdesigner allow to program both the logic by ladder diagram as well the graphics. Memory Cards are available to download firmware and programs, enabling also the upgrade of devices already installed.

## Ordering codes

TD240-AD	HMi 3,5" with soft-plc, 2 serial RS232/RS485 - Modbus	
TD240-11AD	HMi 3,5" with soft-plc + 16 digital I / O + 4 Universal analogue	
	inp. + 4 analogue out 010Volt + 2 serial RS232/RS485	

## Main features

Box	140x100 (front panel) x 40 mm (-AD) or 65mm (-11AD)	
Power supply	1224Vac/Vdc ±15% 50/60 Hz	
Consumption	8W	
Display	Display LCD TFT 3,5" - 256 Colours, Integrated Touch-screen	
Operating conditions	Temperature 0-45 °C, humidity 3595 uR%	
Material	Front panel: aluminium with polycarbonate coverage; Box: chromed steel	
Weight	Approx. 690gr code-AD, approx. 750gr code-11AD	
Sealing	IP54 (Front panel) , IP20 (Box and Terminal bloks)	
Quick set-up options	SLOT Memory Card (MMC) for programs download (Ladder+graphics)	
Expansions	Modules MCM260-1/2/3/4/5 or other Modbus devices	

### Inputs

Analogue

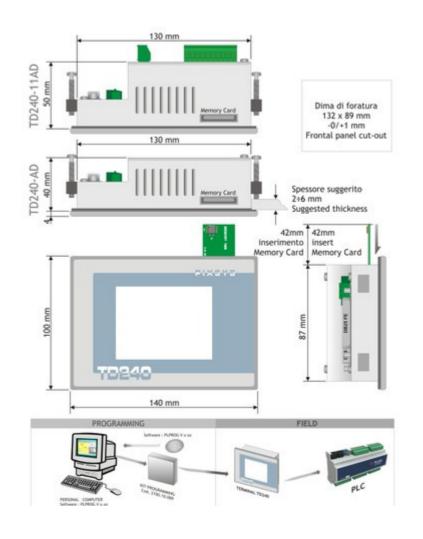
## Outputs

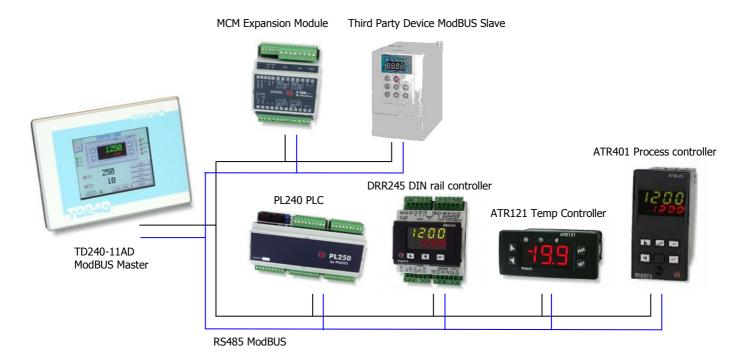
Digital	16 Selectable as static outputs 700mA or digital inputs (code TD240-11AD)	
Analogue	4 outputs 010Volt (code TD240-11AD)	
Serial ports	2 serial ports RS232/RS485	

# Software features

Programming	Pixsys PLprog software, Ladder diagrams; 10Kword variables VW, 800 marker (logic relays), 128 bistables, 128 timer 16 bit, 64 up-down counters, mathematic and logic functions, rescale function, contact on bit
Graphic interface programming	Pixsys TDdesigner software
Communication protocols	Modbus RTU master / slave; Free-Port mode for Modem protocols or proprietary devices.
Memory	384Kbyte Flash for programming, 20Kbyte non-volatile Ram (6 months), 62Kbyte EEprom
Clock	Real-Time clock, Back-up battery
Analogue inputs control algorithms	P, PI, PID, PD

Size and installation





#### Key hardware Features of TD240-11AD

16 Digital input or output assignable max 700mA (expandable)
1 RS485 port
1 RS232 Port
4 Universal 16 bit analogue inputs accepts thermocouples, RTD sensors, PTC, mA , mV or V directly
4 0-10V 10 bit analogue outputs
240 x 320 pixel 256 colour touch screen

#### Software capabilities of TD240-11AD

64 Up/down counters 128 Timers 800 Support marker relays 128 Bistable relays Mathematic, logic & rescale functions Real time clock Set/Reset bits PID blocks ModBUS Master/Slave; Free port mode for modem protocols or proprietary devices 10,000 variable words 6 months retention via battery Up to 30,000 registers 6 months retention via battery Up to 1000 registers retained via EEPROM

#### **PLProg Program Software**

Development environment PLProg is ladder based software structured in contacts and coils that allows construction in a simple and immediate way, all the resources of the Pixsys PLCs.

Compatible IEC notation of memory areas helps the understanding of the diagram.

Direct action on memory areas, debug-on-line, variables table and interactive diagram index are conceived to simplify PLC programming.

Development environment now enhances its capacity with the new software tool Td-Designer, which allows programming of the TD240 & 320 graphics in a fast and simplistic way. Simple operation allows the customer to configure visualized pages with colours and background images, targets and graphic objects, connect text and numeric fields to memory areas and buttons matched to changing page functions or modifying variables.

TD240 (touch 320*240 256col) - C:\Documents and	l Settings\Paul\Desktop\temperature simulation.plp	
File Comm.port PLC Language Tools ?		
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	PLC on CO F10 F11 F12 Des. Font D/Off ■ PLC on CO	M9 PC
	F10 F11 F12 Des. Font D/Off	M9 PC  uments and Settings\Pau\\Desktop\temperature simulation.plp 240 (touch 320*240 256col)  SERIAL COM1-DB25 (R\$285/422) N0-PROTOCOL COM2-DB25 (R\$232) MODBUS-SLAVE EXP1-DB9 (R\$232/485) MODBUS-MASTER PROGRAM  CM10 (Init) INITIALIZATION CODE  CM2 (Main) MAIN CODE  CM2 (Init) INITIALIZATION CODE  CM3 (Init) INITIALIZATION (INITIALIZATION (INITIALI
EXP_3 (Read_Slave1, INDWord1024, VW20, N' Word1) 	SBIT (VW7.0) V8	<u>×</u> ×
VW20 == #0	RBIT(VV7.0) V0 V9 V10	<u> </u>
C1 < #-571 F F F F F F F F F F F F F F F F F F F	MOV(VV40=#0) V12 V13	
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128 Timers On delay, off delay or one shot with memory

📅 TD 240 🎬 Select Woodify coil		
Image: TD240       Image: Select Woodify coil         File       Comm       Select coil         Image: Comm       Select coil       C         Image: Comm       C       0.1.512) Relay output / NPN or auxiliary         Image: Comm       C       0.1.512) Relay output / NPN or auxiliary         Image: Comm       C       0.1.512) Relay output / NPN or auxiliary         Image: Comm       C       0.1.512) Relay output / NPN or auxiliary         Image: Comm       C       0.1.512) Relay output / NPN or auxiliary         Image: Comm       C       0.1.512) Relay output / NPN or auxiliary         Image: Comm       C       0.1.512) Relay output / NPN or auxiliary         Image: Comm       C       0.1.128) Bistable         Image: Comm       C       C.1.64) Counter         Image: Comm       C       FM () Mathematical formula         Image: Comm       MOV () Assignment       RANGE () Min/Mask for ALTR AQ,OutPID         Image: Comm       C       Sell () Set sets BIT to 0         Image: Comm       Comm       COM_I.1.260       RS435 (Master)         Image: Comm       C       COL_I.1.260       RS435 (Master)         Image: Comm       C       COL_I.1.320       Imageiata digital output         Im	Coil number T T T T Parameters Timer type TDN delay at activation Time base Seconds Base Seconds Base Time from Time Time Time Time Time Time Time Tim	ettings\Paul\Desktop\temperature simulation.plp         to"240 256col)         COM1-DB25 (R5485/422) NO-PROTOCOL         COM2-DB25 (R5232) MODBUS-SLAVE         EXP1-DB9 (R5232/485) MODBUS-MASTER         AM         Init) INITIALIZATION CODE         Main) MAIN CODE         Interrupt1) TIMED CODE INTERRUPT 1         Interrupt2) TIMED CODE INTERRUPT 2         240 256col)         Image: Similar Analog         PLC         PID         Image: Similar Analog         Image: Similar Analog      <
	OK Cancel	
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E1 E2 E3 E4 E5 E	C> ↓ ↑ ↓ □ □ □ ▲ F6 F7 F8 F9 F10 F11 F12	Des. Font D/Off	PLC on COM9 PC	<u>^</u>
StartPID1 ( BP = #50 , TI = #12	" Insert/Modify contact		X	pp\temperature simulation.plp
EXP_1(Read_Slave1,INDW) T1 < #15 T2 == #4 IF T2 == #6 IF BIT (WV11) BI BIT (VV7.0) T1 < #4 IF	Select contact I (1.512) Digital input Q (1512) Digital input Q (1512) Digital output relay/NPN M (1800) Contact support marker B (1128) Bistable relay contact N.O. T (1128) Timer contact C (164) Counter contact IF (00) Compare memory areas BIT (00) Contact on BIT of memory areas BIT (00) Reverse flow P (00) Positive transition (on for 1 cycle) N (00) Negative transition (on for 1 cycle) P (00) Positive transition (on for 1 cycle) P (00) Negative transition (on for 1 cycle) P (00) Negative transition (on for 1 cycle) P (00) Linfo End positioner ON/OFF TunePOS (116) End tuning DN/OFF II (120) Immediate digital input	Contact number	• 1 • • • 2 •	V422) NO-PROTOCOL () MODBUS-SLAVE A85) MODBUS-MASTER V CODE ODE INTERRUPT 1 ODE INTERRUPT 2 C C MC USER OG PLC PID Z C Z Z Z
MOV (VW5 = C1)	OK	Cancel		<u>.</u>
EXP_3(Read_Slave1,INDW VW20 == #1 VW20 == #0 IF C1 < #-571 IF EXP_4(Vrite_Slave 1,INDWord)	1105 , VW40 , N' Word1 )	BBIT (VW7.0) MOV (VW40 = #0) VV VV	9 10 11 12	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
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### Maths calculation +, -, \*, /, OR, XOR, AND functions

PID Block Proportional, Integral, derivative time constants with dead band

Scale function Max & Min Inputs can equal constants or variables

📅 TD 24( 🃅 Select Wodify coil		
File       Com       Select coil         C       Q (1512) Relay output / NPN or auxiliary         M (1800) Support marker         F1       F         F1       F         F1       F         C (1512) Bistable         F1       F         F1       F         C (164) Counter operating mode         C (164) Counter         C (165) Rstable         C (165) Rstable         C (165) Rstable         D (116) Immediate digital output         C (116) Immedi	Coil number         RANGE         Parameters         Operating range         Analogical input AI         Min. value from         Minimum         Maximum         Maximum         Memory area V word         Analogical input AI word         Analogical output AQ word         Memory area I word         Analogical output AQ word         Memory area Q word         Description         OK       Cancel	ettings\Paul\Desktop\temperature simulation.plp 0"240 256col) 0M1-DB25 (RS485/422) N0-PROTOCOL 0M2-DB25 (RS232) MODBUS-SLAVE 2XP1-DB9 (RS232/485) MODBUS-MASTER AM
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Read & write variables online. Debug function; monitor state of contact, coils and variables in real time.

### TD Designer Tool

Insert buttons, text & numeric fields, import bitmaps, drawing tools, map variables to existing or new registers onscreen

