



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 0...10Volt + 2 serial RS232/RS485

Main features

Box	140x100 (front panel) x 40 mm (-AD) or 65mm (-11AD)
Power supply	12...24Vac/Vdc \pm 15% 50/60 Hz
Consumption	8W
Display	Display LCD TFT 3,5" - 256 Colours, Integrated Touch-screen
Operating conditions	Temperature 0-45 °C, humidity 35..95 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	4 Selectable for TC, K, J, S, R, T, E, PT100,PT1000, PT500, Ni100, NTC10K, (B 3435K), PTC1K (kty1000) 0/4..20 mA, 0/1..10V
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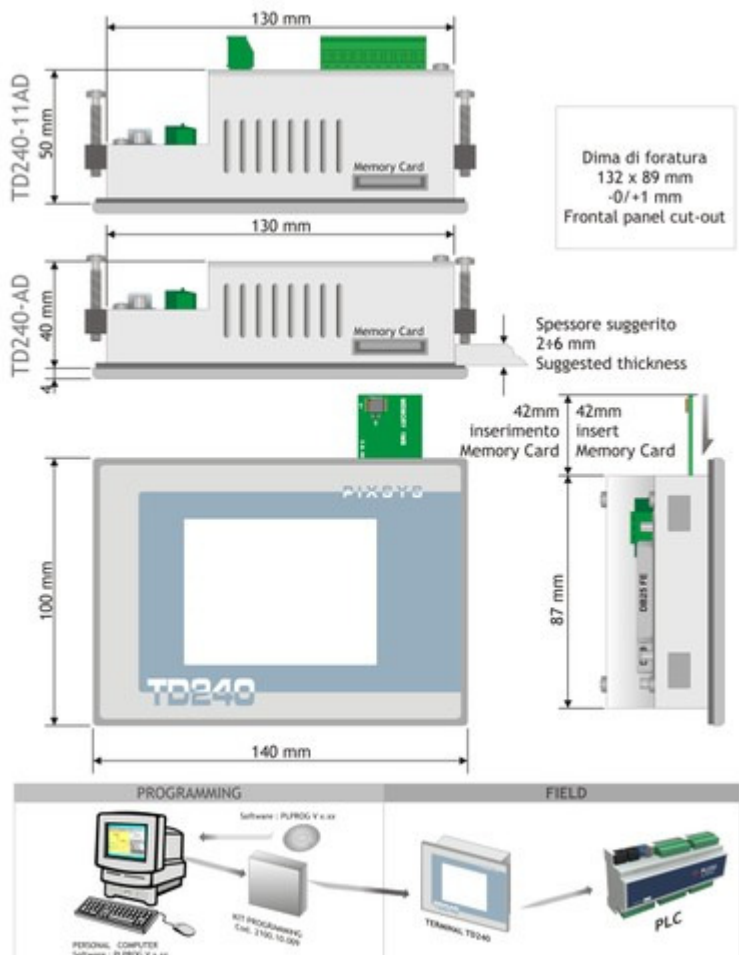
Outputs

Digital	16 Selectable as static outputs 700mA or digital inputs (code TD240-11AD)
Analogue	4 outputs 0...10Volt (code TD240-11AD)
Serial ports	2 serial ports RS232/RS485

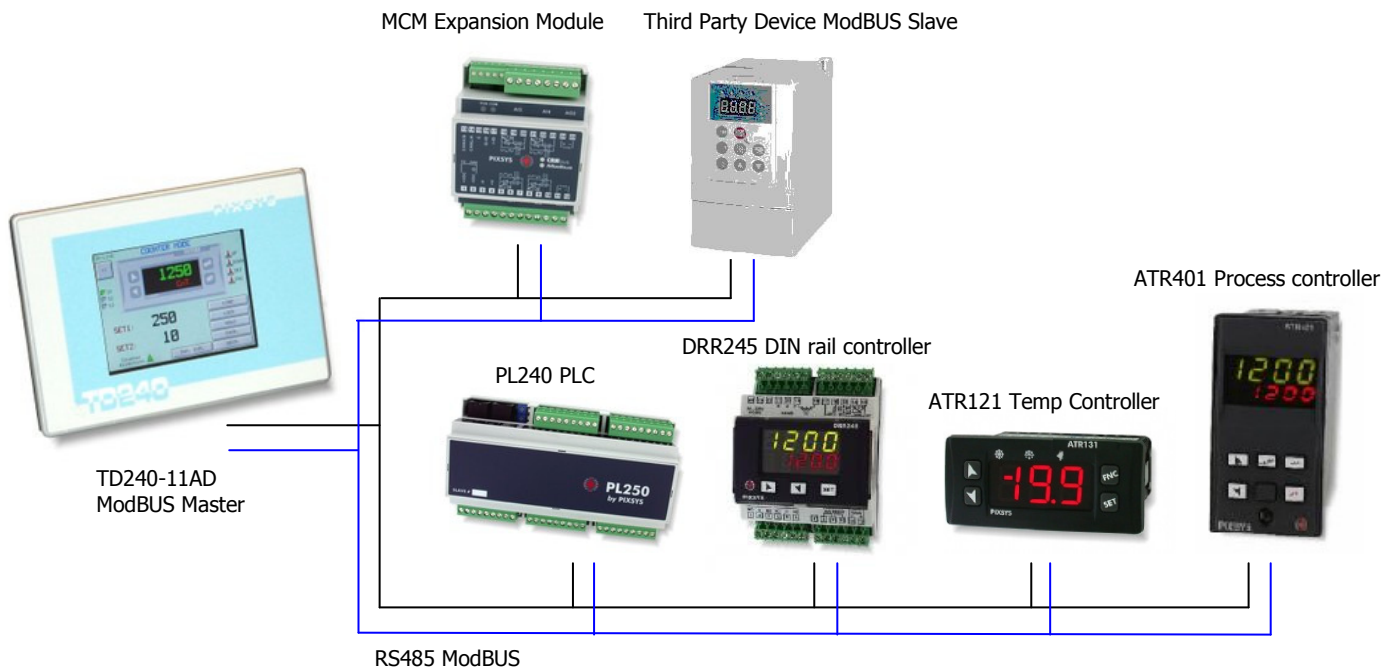
Software features

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



TD240-11AD system possibilities



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.

Simple ladder based format

The screenshot shows the TD240 software interface. The main window displays a ladder logic diagram with various components like EXP (Expansion), T1, T2 (Timers), BIT, SBIT, RBIT, MOV, and C (Counter). The right-hand pane shows the project tree for 'TD240 (touch 320*240 256col)', including SERIAL settings and a PROGRAM folder with sub-items like (Init) INITIALIZATION CODE, (Main) MAIN CODE, and Interrupts. Below the project tree is a table for I/O assignments:

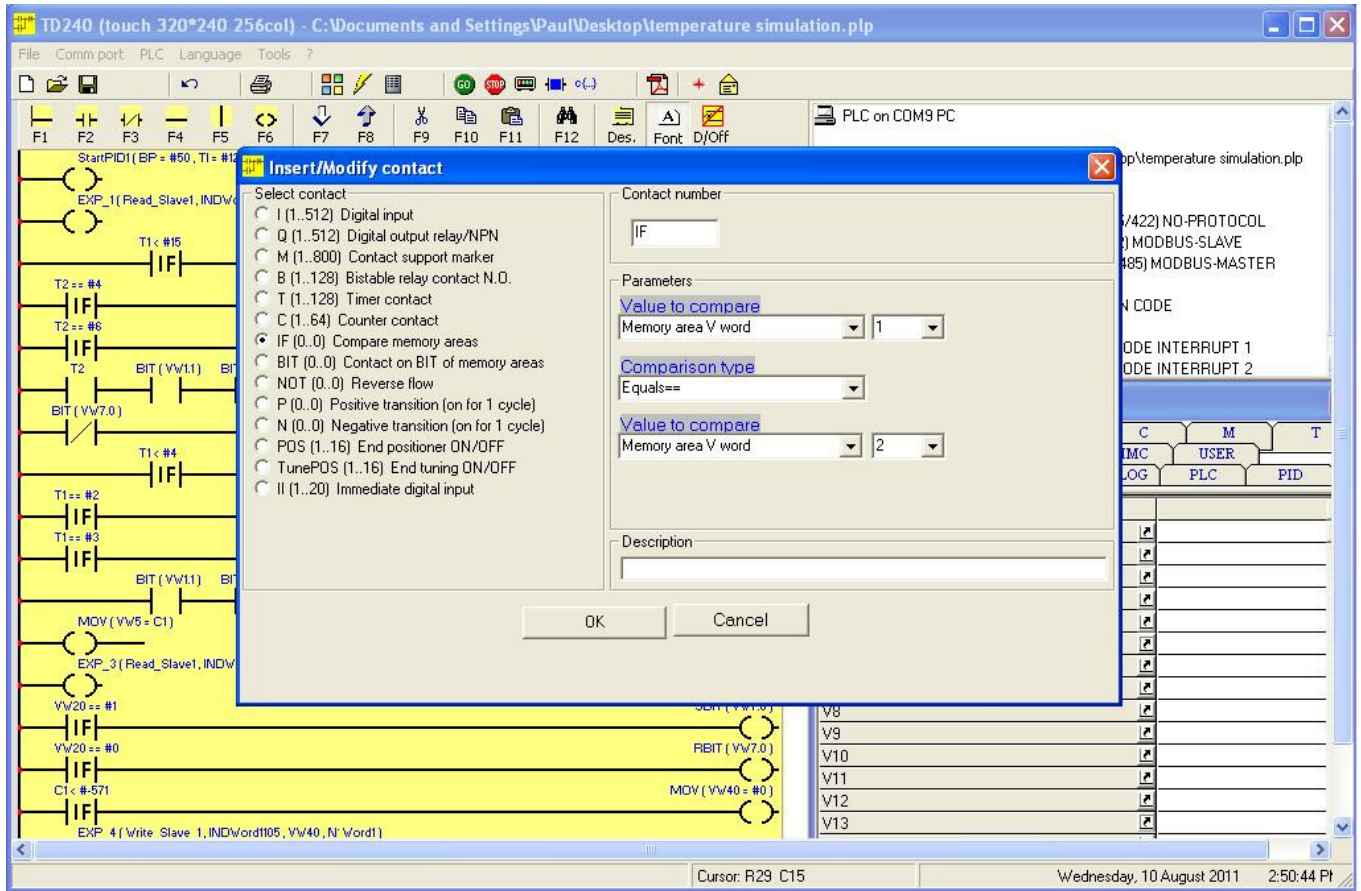
	I	Q	B	C	M	T
	EXP	COM2	EEProm	MMC	USER	
V	POS	SM	ANALOG	PLC	PID	
V0						
V1						
V2						
V3						
V4						
V5						
V6						
V7						
V8						
V9						
V10						
V11						
V12						
V13						

At the bottom, the status bar shows 'File: read. Release 4.70', 'Cursor: R18 C1', and the date/time 'Wednesday, 10 August 2011 2:38:32 PM'.

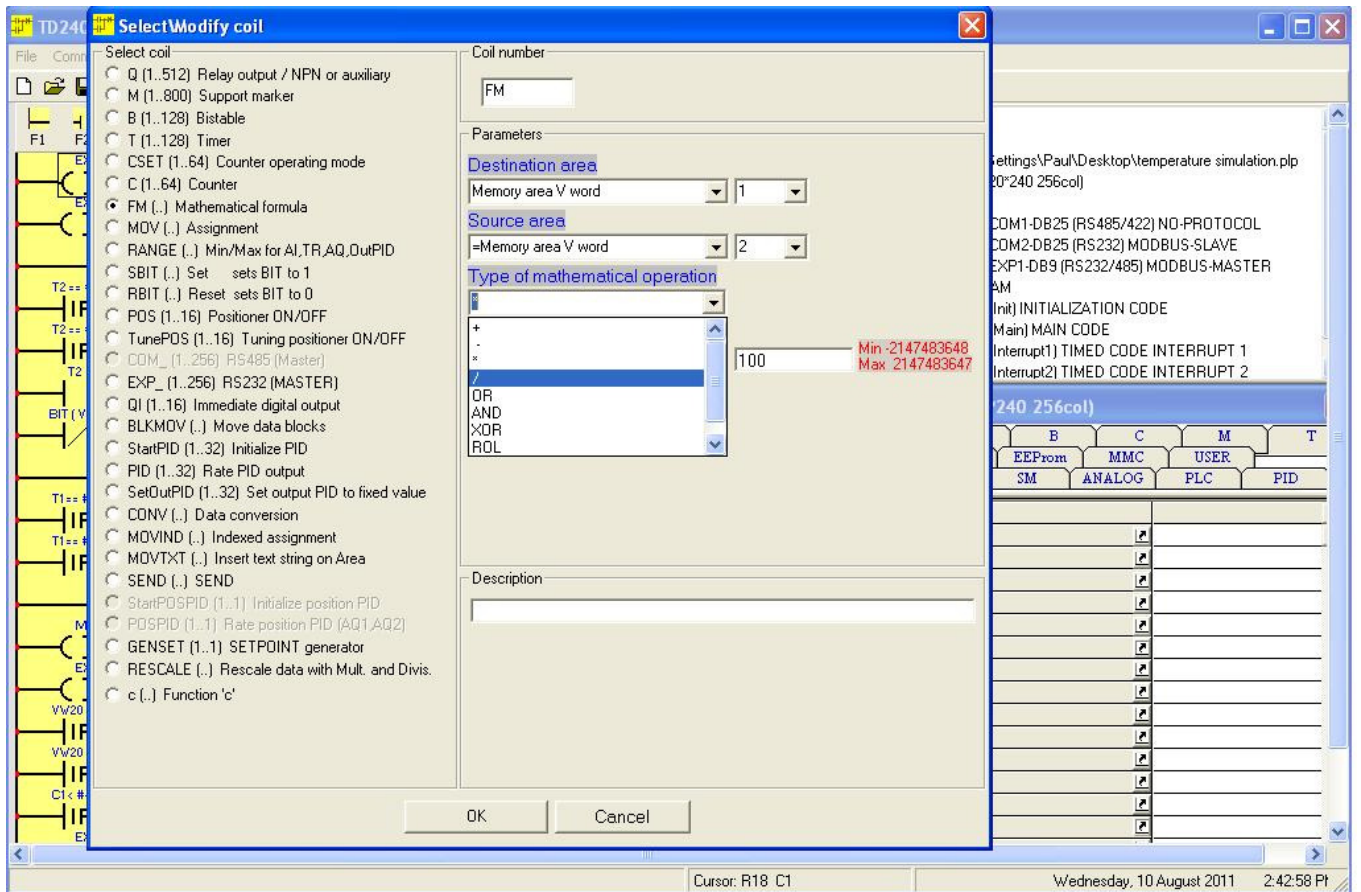
128 Timers On delay, off delay or one shot with memory

The screenshot shows the 'Select/Modify coil' dialog box in the TD240 software. The 'Select coil' list on the left includes options like Q, M, B, T, C, FM, MOV, RANGE, SBIT, RBIT, POS, TunePOS, COM, EXP, QI, BLKMOV, StartPID, PID, SetOutPID, CONV, MOVIND, MOVXT, SEND, StartPSPID, POSPID, GENSET, and RESCALE. The 'Coil number' is set to 'T 1'. The 'Parameters' section shows 'Timer type' set to 'TON delay at activation', 'Time base' set to 'Seconds Base', and 'Time from' set to 'Time' with a value of 250. The 'Description' field is empty. The status bar at the bottom shows 'Cursor: R18 C1' and the date/time 'Wednesday, 10 August 2011 2:40:49 PM'.

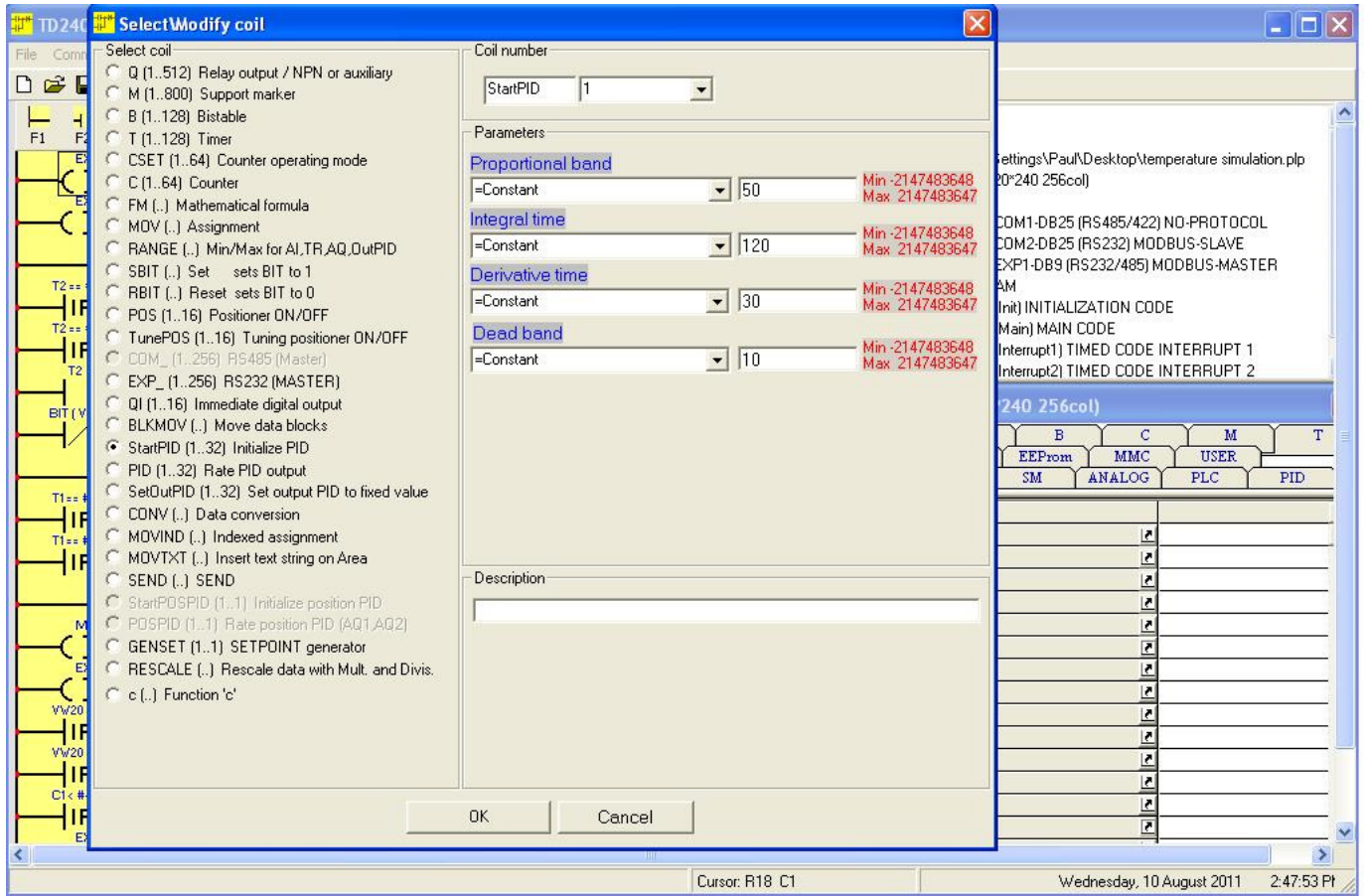
Compare memory areas =, >=, <=, >, < or different to



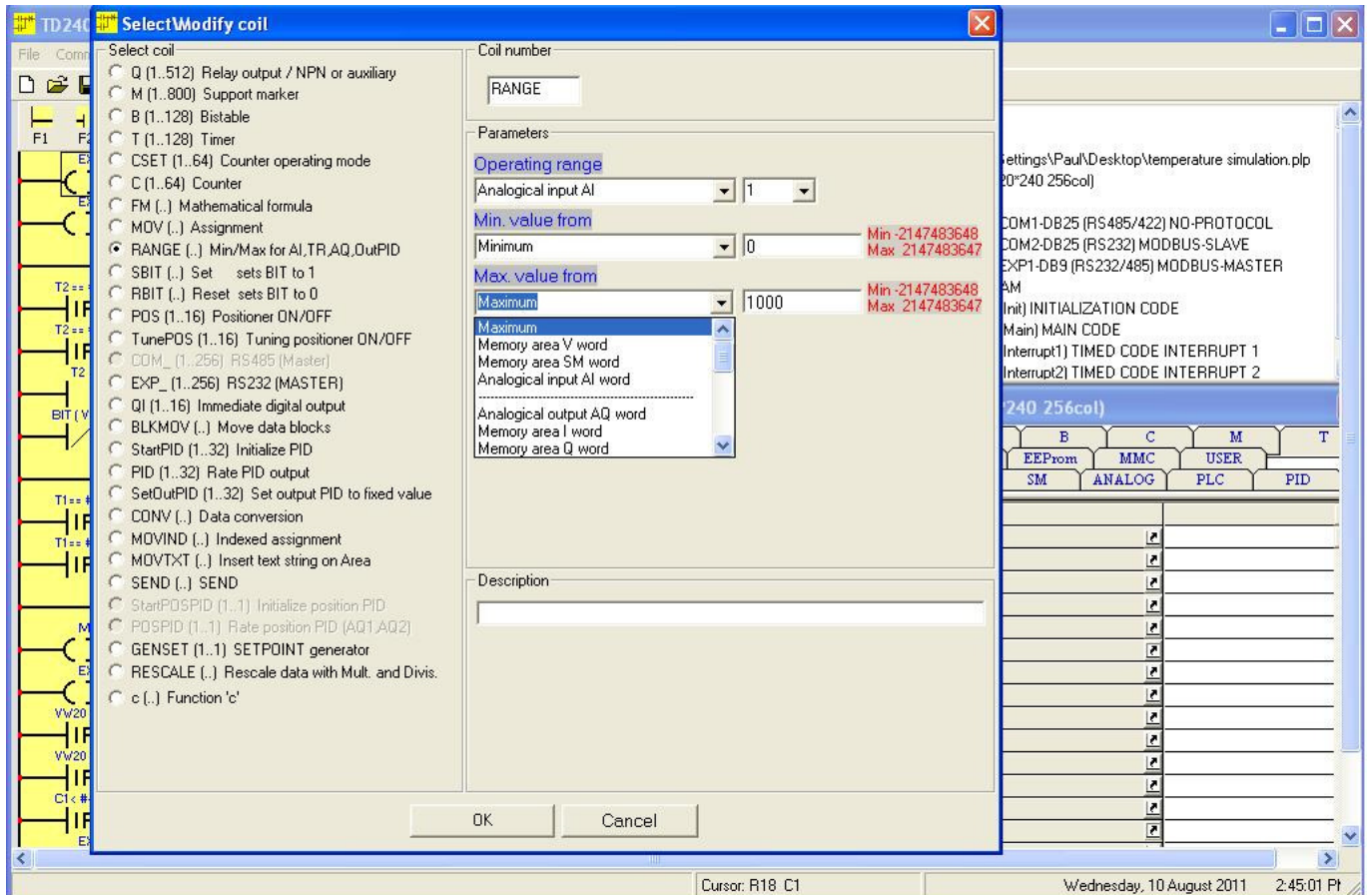
Maths calculation +, -, *, /, OR, XOR, AND functions



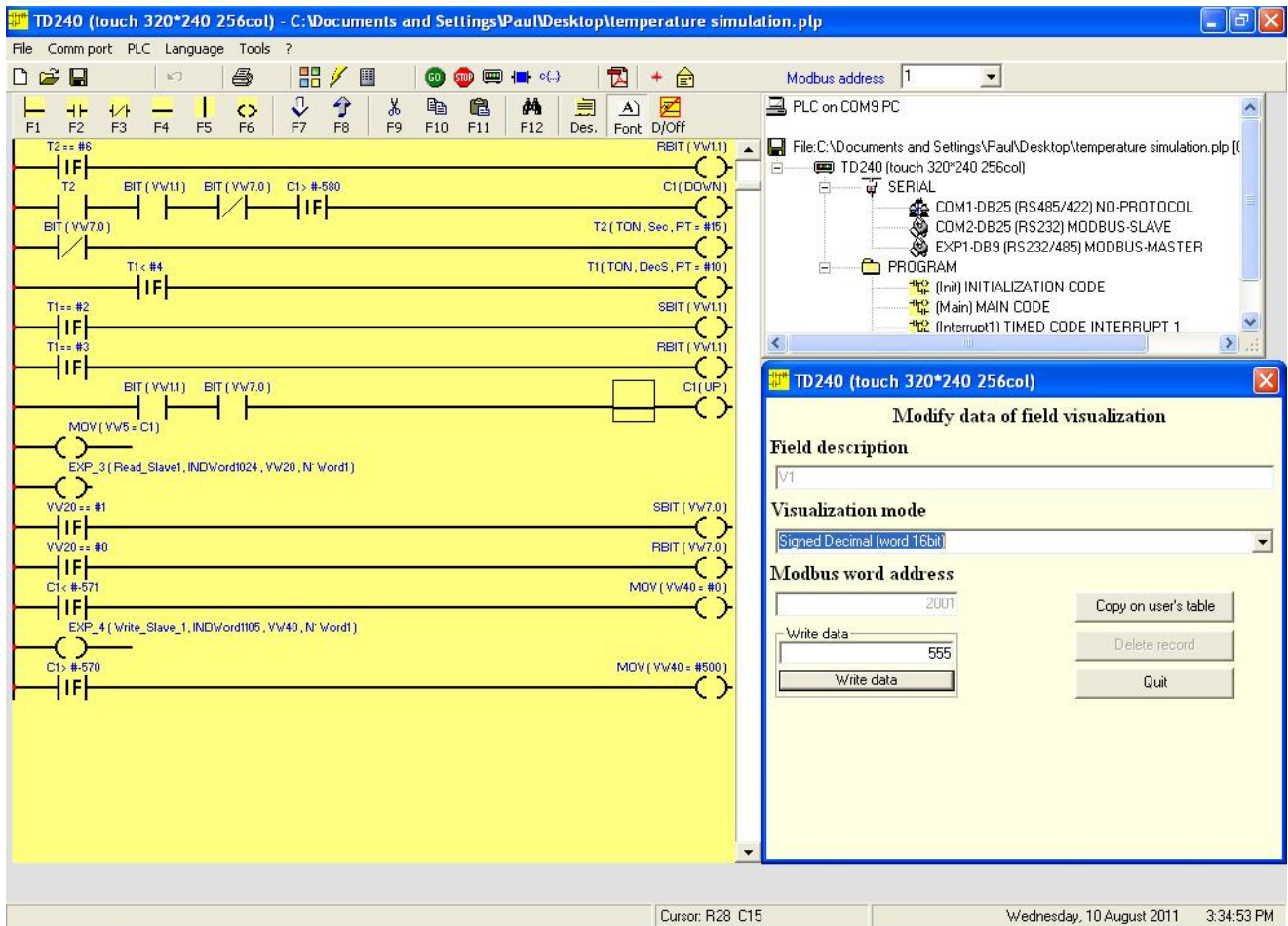
PID Block Proportional, Integral, derivative time constants with dead band



Scale function Max & Min Inputs can equal constants or variables



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

