

M91™

An affordable All-in-One: a smart PLC with a textual HMI and keyboard, plus an onboard I/O configuration; expand up to 150 I/Os.

Features:

HMI

- Up to 80 user-designed screens
- Multilingual: supports over 15 languages and 20 graphic symbols
- Scroll between pre-programmed recipes/menus
- Memory and communication monitoring via HMI - No PC needed

PLC

- Shaft-encoder inputs and PWM outputs
- Direct temperature inputs
- Auto-tune PID, up to 4 loops
- Date & Time-based control
- Database
- Print utilities
- Full source upload

Communication

- SMS messaging via GSM
- Remote access utilities
- PC access via MODBUS or OPC server
- Supports MODBUS protocol
- CANBus (in C models only)
- User-defined ASCII strings, enable communication with external devices
- RS232/RS485 built-in port



M91



Article	summary	Inputs ¹				Outputs				Operating voltage
		Digital ²	HSC/Shaft-encoder ²	Analog	Temperature Measurement	Transistor ³	PWM/HSO ³	Relay	Analog	
M91-2-R1	10 Digital, 1 Analog Inputs 6 Relay Outputs	10	3 10kHz, 32-bit	1 0-10V, 0-20mA, 4-20mA 10-bit	None	None	None	6	None	12/24VDC
M91-2-R2C	10 Digital, 2 Analog Inputs 6 Relay Outputs	10	3 10kHz, 32-bit	2 0-10V, 0-20mA, 4-20mA 10-bit	None	None	None	6	None	12/24VDC
M91-2-R6C	6 Digital, 6 Analog Inputs 6 Relay Outputs	6	1 10kHz, 32-bit	2 0-10V, 0-20mA, 4-20mA 4 0-20mA, 4-20mA 10-bit	None	None	None	6	None	24VDC
M91-2-R34	20 Digital, 2 D/A ¹ Inputs 12 Relay Outputs	22	3 10kHz, 32-bit	2 0-10V, 0-20mA, 4-20mA 10-bit	None	None	None	12	None	24VDC
M91-2-T1	12 Digital Inputs 12 Transistor Outputs	12	2 10kHz, 32-bit	None	None	12 pnp	2 0.5kHz	None	None	12/24VDC
M91-2-T38	22 Digital Inputs 16 Transistor Outputs	22	2 10kHz, 32-bit	None	None	16 pnp		None	None	24VDC
M91-2-T2C	10 Digital, 2 D/A ¹ Inputs 12 Transistor Outputs	12	3 10kHz, 32-bit	2 0-10V, 0-20mA, 4-20mA 10-bit	None	12 pnp		None	None	12/24VDC
M91-2-UN2	10 Digital, 2 D/A/ PT100/TC ¹ Inputs 12 Transistor Outputs	12	2 10kHz, 32-bit	2 Thermocouple, PT100, 0-10V, 0-20mA, 4-20mA 14-bit	None	12 pnp		None	None	12/24VDC
M91-2-UA2	10 Digital, 2 D/A/TC ¹ Inputs 10 Transistor, 2 Analog Outputs	12	1 10kHz, 32-bit	2 Thermocouple, 0-10V, 0-20mA, 4-20mA 14-bit	None	10 pnp		None	2 0-10V, 4-20mA 12-bit	24VDC
M91-2-RA22	8 Digital, 2 D/A, 2 PT100/ TC/Digital ¹ Inputs 8 Relay, 2 Analog Outputs	12	1 10kHz, 32-bit	2 0-10V, 0-20mA, 4-20mA 14-bit	2 Thermocouple, PT100	None	None	8	2 0-10V, 4-20mA 12-bit	24VDC

Product Details

I/O Expansion	I/Os may be added via expansion port. Expand up to 150 I/Os
Program	
Application Memory	36K (virtual) Ladder code capacity
Memory Operands	256 coils, 256 registers, 64 timers
Database	1024 integers, (indirect access)
Operator Panel	
Type	STN LCD
Display Size	2 lines x 16 characters
Keys	15 keys
General	
Power Supply	M91-2-R1 / R2C / T1 / T2C / UN2 : 12/24VDC • M91-2-R6C / R34 / T38 / UA2 / RA22 : 24VDC
Battery	7 years typical at 77°F, battery back-up for all memory sections and RTC
Clock (RTC)	Real-time clock functions (date and time)
Environment	NEMA4X/IP65 (when panel mounted)
Standard	CE, UL Many of our products are also UL Class 1 Div 2 and GOST certified - please contact Unitronics

¹ In some models certain inputs are adaptable via wiring and software settings, and can function as digital, high-speed, analog and in certain models as TC or PT100. Adapting requires input pins. This reduces the number of digital inputs. Pin requirements:

- Each high-speed requires 1 or 2 pins according to high-speed mode.
- Each analog input requires 1 pin.
- Each TC requires 2 pins per TC input.
- The first PT input requires 3 pins, and two additional pins for each additional PT input.

Example: V91-2-UA2 offers 12 digital inputs. Implementing 2 TC inputs requires 4 pins, leaving 8 pins free. Implementing 2 PT inputs uses 5 input pins.

² The total number of digital inputs listed includes high-speed and adaptable inputs.

³ The total number of digital outputs listed includes high-speed outputs.