M90/M91 Micro-OPLC™

All M91 OPLCs™ include: 2-line display, 80 user-designed available displays, 64 HMI variables, 4 PID loops[1] with Auto-tune, RS232/RS485 port (selectable) and Real-Time Clock functions.

Article Number	M91-2-R1	M91-2-R34[4]	M91-2-R2C	M91-2-R6C	M91-2-T2C	M91-2-T1	M91-2-T38[4]	M91-2-UN2	M91-2-UA2	M91-2-RA22[4]
Power supply	12/24VDC	24VDC	12/24VDC	24VDC	12/24VDC	12/24VDC	24VDC	12/24VDC	24VDC	24VDC
Digital inputs	10 pnp/npn (source/sink) 12/24VDC	22[2] pnp/npn (source/sink) 24VDC	10 pnp/npn (source/sink) 12/24VDC	6 pnp/npn (source/sink) 24VDC	12[2] pnp/npn (source/sink) 12/24VDC	12 pnp/npn (source/sink) 12/24VDC	22 pnp/npn (source/sink) 24VDC	12[2] pnp/npn (source/sink) 12/24VDC	12[2] pnp/npn (source/sink) 24VDC	12[2] pnp/npn (source/sink) 24VDC
High-speed counter/ Shaft-encoder/ Frequency measurer[3]	Three 10 kHz, 16 bit resolution	Three 10 kHz, 16 bit resolution	Three 10 kHz, 16 bit resolution	One 10 kHz, 16 bit resolution	Three 10 kHz, 16 bit resolution	Two 10 kHz, 16 bit resolution	Two 10 kHz, 16 bit resolution	Two 10 kHz, 16 bit resolution	One 10 kHz, 16 bit resolution	One 10 kHz, 16 bit resolution
Analog input types	One 10 bit input: 0-10V, 0-20mA, 4-20mA	Two[2] 10 bit inputs: 0-10V, 0-20mA, 4-20mA	Two 10 bit inputs: 0-10V, 0-20mA, 4-20mA	Six 10 bit inputs: Two 0-10V, 0-20mA, 4-20mA Four 0-20mA, 4-20mA	Two[2] 10 bit inputs: 0-10V, 0-20mA, 4-20mA	None	None	Two[2] 14 bit inputs: 0-10V, 0-20mA, 4-20mA	Two[2] 14 bit inputs: 0-10V, 0-20mA, 4-20mA	Two[2] 14 bit inputs: 0-10V, 0-20mA, 4-20mA — and —
Temperature measurement	None	None	None	None	None	None	None	Two[2] PT100 or Thermocouple inputs	Two[2] Thermocouple inputs	Two[2] PT100 or Thermocouple inputs
Digital outputs	6 relay outputs	12 relay outputs	6 relay outputs	6 relay outputs	12 pnp (source)	12 pnp (source)	16 pnp (source)	12 pnp (source)	10 pnp (source)	8 relay outputs
High-speed outputs/ PWM	None	None	None	None	First 2 outputs can function as HSO, 2 kHz maximum					None
Analog outputs	None	None	None	None	None	None	None	None	Two 12 bit Outputs: 0-10V, 4-20mA	Two 12 bit Outputs: 0-10V, 4-20mA
Display	2 line x 16 characters, STN LCD display, LED backlight									
Communication port	RS232/RS485 port (selectable)									
CANbus	None	None	Yes	Yes	Yes	None	None	None	None	None
MODBUS	Supports MODBUS protocol, Master-Slave									
Ladder code memory (virtual)	36K									
GSM support	Enables SMS messages, containing text & variable data, to be communicated to & from cellular devices. Up to 1K of user-defined messages									
Data types	Bits\Coils -256, Timers - 64, Integers\registers (16-bit)- 256 direct addressing, 1024 additional indirect									

All M90 OPLCs™ include: 1-line LCD display, 80 user-designed available displays, 50 HMI variables, 4 PID loops[1] with Auto-tune (except for M90-T),

Article Number	M90-T	M90-TA2-CAN	M90-19-B1A[5]
Power supply	24VDC	24VDC	24VDC
Digital inputs	8 pnp (source) 24VDC	10 pnp (source) 24VDC	10 pnp (source) 24VDC
HS counter/Shaft-encoder/ Frequency measurer[3]	One 10 kHz, 16 bit resolution	One 10 kHz, 16 bit resolution	One 10 kHz, 16 bit resolution
Analog input types	None	Two 10 bit inputs: 0-10V	One 10 bit input: 0-5V, 0-10V, 0-20mA, 4-20mA
Digital outputs	6 pnp (source)	8 pnp (source)	6 relay outputs
Analog outputs	None	One 10 bit output: 0-10V	None
Display	1 line x 16 characters, STN LCD display, LED backlight		
Communication port	RS232 port		
CANbus	None	Yes	None
Ladder code memory (virtual)	24K	24K	12K
GSM support	None	Enables SMS messages, containing text & variable data, to be communicated to and from 6 phone numbers. Up to 1K of user-defined messages	
Data types	Bits\Coils -256, Timers - 64, Integers\Registers (16-bit)- 256 direct addressing, 1024 additional indirect		

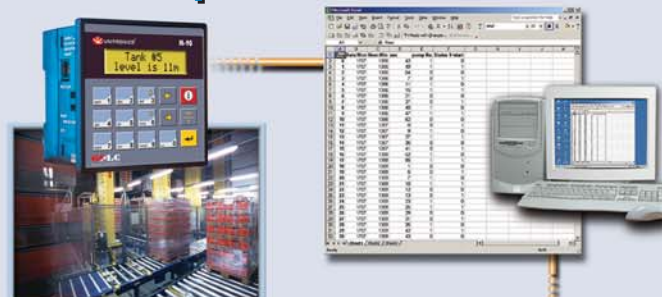[1] Auto-tune is provided via an external PC based application.

[2] In these models certain inputs can function as either digital, analog, thermocouple or PT100 inputs (model-dependent). Using those inputs, regardless of the combination among analog, thermocouple and PT100, will reduce the amount of free digital inputs.

[3] Certain digital inputs can function as high-speed counters, shaft-encoder inputs, frequency measurers or normal digital inputs.

[4] M91-2-R34, M91-2-T38 and M91-2-RA22 are not yet UL certified.

[5] M90-19-B1A has no I/O expansion port.

DataXport

Export the PLC application data to Excel files for processing