## M90-T1

12 digital inputs, high-speed counter/shaft encoder input, 12 pnp outputs, I/O expansion port, RS232

### Power Supply
- **24VDC**
  - Permissible range: 20.4 to 28.8VDC
  - Maximum current consumption: 90mA @ 24VDC
  - Typical power consumption: 2W @ 24VDC

### Digital Inputs
- **12 pnp (source) inputs**
  - Nominal input voltage: 24 VDC
  - Input voltage: < 5 VDC for Logic '0', > 15 VDC for Logic '1'
  - Input current: 3 mA @ 24 VDC
  - Input impedance: 8.4kΩ
  - Response time: '0' to '1' (except input#10 and input#11) 5 ms, '1' to '0' 10 ms
  - Galvanic isolation: None
  - Input cable length: Up to 100 meters, unshielded

### High-speed Counter
- Input#11 can be used as either a digital input, or as a counter
- Input#10 can be used as either a digital input or as a counter reset
- Input#10 and #11 can also be used as a shaft encoder
- Resolution: 16-bit
- Input frequency: input#10 and input#11 - 5kHz max.
- Minimum pulse width: input#10 and input#11 - 80µs

### Digital Outputs
- **12 pnp (source) outputs, 24 VDC**
  - Output type: P-MOSFET (open drain)
  - Output current: 0.5A max., Total current: 3A max.
  - Max. frequency: 1kHz (resistive load), 0.5kHz (inductive load)
  - Short circuit protection: Yes

### Display
- **STN, LCD display**
  - Illumination: LED yellow-green backlight
  - Display size: 1 line, 16 characters long
  - Character size: 5 x 7 matrix, 3.97 x 5.78mm

### Keypad
- **Sealed membrane**
  - Number of keys: 15

### PLC Program
- **2048 words**
  - Bits/Coils: 256
  - Integers/Registers: 256
  - Timers: 64
  - Execution time: 12µsec. for bit operations
  - HMl displays: 80 user-designed displays
  - HMI variables: 50 HMI variables are available to conditionally display and modify text, numbers, dates, times & timer values. The user can also create a list of up to 120 variable text displays, totaling up to 2K.

### RS232 Serial Port
- **Download user program**
  - Network option: Via RS485/RS232 converter

### I/O Expansion Port
- **Up to 64 additional I/Os, including: digital & analog I/Os, RTD and more.**

### Miscellaneous
- **Clock (RTC)**: Date and time-year 2000 compliant, with typical 7 year battery back-up
- **Weight**: 260g (9.1 oz.)
- **Temperature**:
  - Operational: 0 to +50°C
  - Storage: -20 to +60°C
- **Mounting method**:
  - DIN-rail mounted (IP20)
  - Panel mounted (IP65)