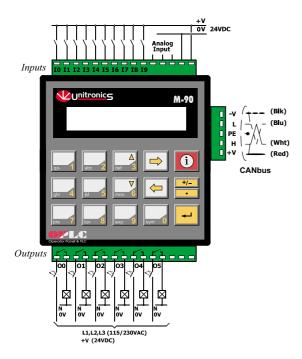
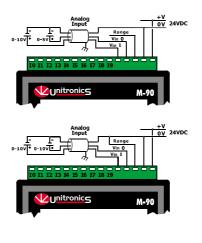
90-R2-CAN

10 digital inputs, 2 analog inputs, high-speed counter/shaft encoder input, 6 relay outputs, I/O expansion port, RS232 plus CANbus

Permissible range 20.4 to 28.8VDC	Device comply	34VDC
Maximum current consumption 140mA @ 24VDC	Power supply	24VDC
Typical power consumption 3.2W @ 24VDC		
Digital inputs 10 pnp (source) inputs		
Nominal input voltage	Typical power consumption	3.2W @ 24VDC
Nominal input voltage	Digital inputs	10 ppp (source) inputs
Input voltage		
Input current 3 mA @ 24 VDC Input impedance 8.4kΩ Response time (except Input#8 and Input#9) '0' to '1' 5 mS '1' to '0' 10 mS Galvanic isolation Input cable length Up to 100 meters, unshielded High-speed counter Input#8 can be used as either a digital input, or as a counter Input#8 can be used as either a digital input or as a counter reset Input#8 and #9 can also be used as a shaft encoder Input#8 and input#9: 5kHz max. Input frequency Input#8 and input#9: 80µs Analog inputs Two 10-bit, multi-range inputs: 0-5V or 0-10V for Vin0 0-10V for Vin1 Conversion method Successive approximation Input impedance >100kΩ Galvanic isolation None Resolution 10-bit (1024 units) Conversion time Absolute max. rating ± 15V Full scale error ± 2 LSB Linearity error ± 2 LSB Digital outputs SPST-NO relay Type of relay Takamisawa JY-24H-K, or NAIS (Matsushita) JQ1AP-24V or OMRON G 6B - 1114P - 24VDC		
Input current 3 mA @ 24 VDC Input impedance 8.4kΩ Response time (except Input#8 and Input#9) '1' to '0' 10 mS Galvanic isolation Input cable length Up to 100 meters, unshielded High-speed counter Input#9 can be used as either a digital input, or as a counter Input#8 can be used as either a digital input or as a counter reset Input#8 can be used as either a digital input or as a counter reset Input#8 and #9 can also be used as a shaft encoder Resolution 16-bit Input frequency Input#8 and input#9 : 5kHz max. Input#8 and input#9 : 80µs Analog inputs Two 10-bit, multi-range inputs: 0-5V or 0-10V for Vin0 0-10V for Vin1 Conversion method Successive approximation Input impedance >100kΩ Galvanic isolation None Resolution 10-bit (1024 units) Conversion time Synchronized to scan time Absolute max. rating ± 15V Full scale error ± 2 LSB Linearity error ± 2 LSB Digital outputs G relay outputs, 230VAC / 24 VDC Output type SPST-NO relay Takamisawa JY-24H-K, or NAIS (Matsushita) JQ1AP-24V or OMRON G 6B - 1114P - 24VDC	input voitage	
Response time	Input current	
'0' to '1' 5 mS '1' to '0' 10 mS Galvanic isolation None Input cable length Up to 100 meters, unshielded High-speed counter • Input#9 can be used as either a digital input, or as a counter eset oliputs#8 can be used as either a digital input or as a counter reset oliputs#8 and #9 can also be used as a shaft encoder Resolution 16-bit Input frequency Input#8 and input#9 : 5kHz max. Minimum pulse width Input#8 and input#9 : 80μs Analog inputs Two 10-bit, multi-range inputs: 0-5V or 0-10V for Vin0 0-10V for Vin1 Conversion method Successive approximation Input impedance >100kΩ Galvanic isolation None Resolution 10-bit (1024 units) Conversion time Synchronized to scan time Absolute max. rating ± 15V Full scale error ± 2 LSB Linearity error ± 2 LSB Digital outputs 6 relay outputs, 230VAC / 24 VDC Output type SPST-NO relay Takamisawa JY-24H-K, or NAIS (Matsushita) JQ1AP-24V or OMRON G 6B - 1114P - 24VDC	Input impedance	
10 mS Galvanic isolation None Input cable length Up to 100 meters, unshielded	Response time	(except Input#8 and Input#9)
Salvanic isolation Input cable length Up to 100 meters, unshielded	'0' to '1'	5 mS
Input cable length	_'1' to '0'	10 mS
Input#9 can be used as either a digital input, or as a counter Input#8 can be used as either a digital input or as a counter reset Input#8 and #9 can also be used as a shaft encoder Input frequency Input#8 and input#9 : 5kHz max. Input frequency Input#8 and input#9 : 80μs		
digital input, or as a counter Input#8 can be used as either a digital input or as a counter reset Inputs#8 and #9 can also be used as a shaft encoder Resolution Input frequency Input#8 and input#9 : 5kHz max. Input#8 and input#9 : 80μs Analog inputs Two 10-bit, multi-range inputs: 0-5V or 0-10V for Vin0 0-10V for Vin1 Conversion method Input impedance Galvanic isolation Resolution Resolution Input impedance Absolute max. rating Full scale error Linearity error Digital outputs 6 relay outputs, 230VAC / 24 VDC Output type Type of relay Takamisawa JY-24H-K, or NAIS (Matsushita) JQ1AP-24V or OMRON G 6B - 1114P - 24VDC	Input cable length	Up to 100 meters, unshielded
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Input#8 can be used as either a digital input or as a counter reset	High-speed counter	
digital input or as a counter reset Inputs#8 and #9 can also be used as a shaft encoder Resolution Input frequency Input#8 and input#9 : 5kHz max. Minimum pulse width Input#8 and input#9 : 80μs Two 10-bit, multi-range inputs: 0-5V or 0-10V for Vin0 0-10V for Vin1 Conversion method Input impedance Successive approximation Input impedance Salvanic isolation Resolution Conversion time Absolute max. rating Full scale error ± 2 LSB Linearity error ± 2 LSB Digital outputs 6 relay outputs, 230VAC / 24 VDC Output type Type of relay Takamisawa JY-24H-K, or NAIS (Matsushita) JQ1AP-24V or OMRON G 6B - 1114P - 24VDC		
Provided P		
$\begin{array}{c} \text{used as a shaft encoder} \\ \hline Resolution & 16\text{-bit} \\ \hline \\ Input frequency & Input#8 and input#9 : 5kHz max. \\ \hline \\ Minimum pulse width & Input#8 and input#9 : 80 μ \\ \hline \\ \textbf{Analog inputs} & Two 10\text{-bit, multi-range inputs:} \\ \hline \\ 0\text{-5V or } 0\text{-}10V \text{ for Vin0} \\ \hline \\ 0\text{-}10V \text{ for Vin1} \\ \hline \\ \textbf{Conversion method} & \text{Successive approximation} \\ \hline \\ Input impedance & >100k Ω \\ \hline \\ \textbf{Galvanic isolation} & \text{None} \\ \hline \\ \textbf{Resolution} & 10\text{-bit } (1024 \text{ units}) \\ \hline \\ \textbf{Conversion time} & \text{Synchronized to scan time} \\ \hline \\ \textbf{Absolute max. rating} & \pm 15V \\ \hline \\ \textbf{Full scale error} & \pm 2 \text{ LSB} \\ \hline \\ \textbf{Linearity error} & \pm 2 \text{ LSB} \\ \hline \\ \textbf{Digital outputs} & \text{6 relay outputs, 230VAC / 24 VDC} \\ \hline \\ \textbf{Output type} & \text{SPST-NO relay} \\ \hline \\ \hline \\ \textbf{Type of relay} & \text{Takamisawa JY-24H-K, or} \\ \hline \\ \textbf{NAIS } (\text{Matsushita) JQ1AP-24V or} \\ \hline \\ \textbf{OMRON G 6B - 1114P - 24VDC} \\ \hline \end{array}$		0
Resolution 16-bit Input frequency Input#8 and input#9 : 5kHz max. Minimum pulse width Input#8 and input#9 : 80μs Analog inputs Two 10-bit, multi-range inputs: 0-5V or 0-10V for Vin0 0-10V for Vin1 Conversion method Successive approximation Input impedance >100kΩ Galvanic isolation None Resolution 10-bit (1024 units) Conversion time Synchronized to scan time Absolute max. rating ± 15V Full scale error ± 2 LSB Linearity error ± 2 LSB Digital outputs 6 relay outputs, 230VAC / 24 VDC Output type SPST-NO relay Type of relay Takamisawa JY-24H-K, or NAIS (Matsushita) JQ1AP-24V or OMRON G 6B - 1114P - 24VDC		·
Input frequency		
Minimum pulse width Input#8 and input#9 : 80μs Analog inputs Two 10-bit, multi-range inputs: 0-5V or 0-10V for Vin0 0-10V for Vin1 Conversion method Successive approximation Input impedance >100kΩ Galvanic isolation None Resolution 10-bit (1024 units) Conversion time Synchronized to scan time Absolute max. rating ± 15V Full scale error ± 2 LSB Linearity error ± 2 LSB Digital outputs 6 relay outputs, 230VAC / 24 VDC Output type SPST-NO relay Type of relay Takamisawa JY-24H-K, or NAIS (Matsushita) JQ1AP-24V or OMRON G 6B - 1114P - 24VDC	Resolution	10 011
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Input frequency	
$\begin{array}{c c} & 0\text{-5V or }0\text{-}10\text{V for Vin0} \\ \hline 0\text{-}10\text{V for Vin1} \\ \hline \text{Conversion method} & \text{Successive approximation} \\ \hline \text{Input impedance} & >100\text{k}\Omega \\ \hline \text{Galvanic isolation} & \text{None} \\ \hline \text{Resolution} & 10\text{-bit (1024 units)} \\ \hline \text{Conversion time} & \text{Synchronized to scan time} \\ \hline \text{Absolute max. rating} & \pm 15\text{V} \\ \hline \text{Full scale error} & \pm 2\text{ LSB} \\ \hline \text{Linearity error} & \pm 2\text{ LSB} \\ \hline \\ \hline \textbf{Digital outputs} & 6\text{ relay outputs, 230VAC / 24 VDC} \\ \hline \hline \text{Output type} & \text{SPST-NO relay} \\ \hline \text{Type of relay} & \text{Takamisawa JY-24H-K, or} \\ \hline \text{NAIS (Matsushita) JQ1AP-24V or} \\ \hline \text{OMRON G 6B - 1114P - 24VDC} \\ \hline \end{array}$	Minimum pulse width	Input#8 and input#9 : 80μs
$\begin{array}{c c} & 0\text{-5V or }0\text{-}10\text{V for Vin0} \\ \hline 0\text{-}10\text{V for Vin1} \\ \hline \text{Conversion method} & \text{Successive approximation} \\ \hline \text{Input impedance} & >100\text{k}\Omega \\ \hline \text{Galvanic isolation} & \text{None} \\ \hline \text{Resolution} & 10\text{-bit (1024 units)} \\ \hline \text{Conversion time} & \text{Synchronized to scan time} \\ \hline \text{Absolute max. rating} & \pm 15\text{V} \\ \hline \text{Full scale error} & \pm 2\text{ LSB} \\ \hline \text{Linearity error} & \pm 2\text{ LSB} \\ \hline \\ \hline \textbf{Digital outputs} & 6\text{ relay outputs, 230VAC / 24 VDC} \\ \hline \hline \text{Output type} & \text{SPST-NO relay} \\ \hline \text{Type of relay} & \text{Takamisawa JY-24H-K, or} \\ \hline \text{NAIS (Matsushita) JQ1AP-24V or} \\ \hline \text{OMRON G 6B - 1114P - 24VDC} \\ \hline \end{array}$	Analog inputs	Two 10 hit multi range inpute:
$\begin{array}{c c} & 0\text{-}10\text{V for Vin1} \\ \hline Conversion \ method & Successive \ approximation \\ \hline Input \ impedance & >100k\Omega \\ \hline Galvanic \ isolation & None \\ \hline Resolution & 10\text{-bit } (1024 \ units) \\ \hline Conversion \ time & Synchronized \ to \ scan \ time \\ \hline Absolute \ max. \ rating & \pm \ 15\text{V} \\ \hline Full \ scale \ error & \pm 2 \ LSB \\ \hline Linearity \ error & \pm 2 \ LSB \\ \hline \hline \textbf{Digital outputs} & 6 \ relay \ outputs, 230VAC \ / \ 24 \ VDC \\ \hline \hline \textbf{Output type} & SPST-NO \ relay \\ \hline Type \ of \ relay & Takamisawa \ JY-24H-K, \ or \\ \hline NAIS \ (Matsushita) \ JQ1AP-24V \ or \\ \hline OMRON \ G \ 6B \ - \ 1114P \ - \ 24VDC \\ \hline \end{array}$	Analog inputs	
Input impedance >100kΩ	Conversion method	
Galvanic isolation None Resolution 10-bit (1024 units) Conversion time Synchronized to scan time Absolute max. rating ± 15V Full scale error ± 2 LSB Linearity error ± 2 LSB Digital outputs 6 relay outputs, 230VAC / 24 VDC Output type SPST-NO relay Type of relay Takamisawa JY-24H-K, or NAIS (Matsushita) JQ1AP-24V or OMRON G 6B - 1114P - 24VDC		
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Conversion time Absolute max. rating Full scale error Linearity error Digital outputs Output type Type of relay Synchronized to scan time ± 15V ± 2 LSB ± 2 LSB 6 relay outputs, 230VAC / 24 VDC SPST-NO relay Takamisawa JY-24H-K, or NAIS (Matsushita) JQ1AP-24V or OMRON G 6B - 1114P - 24VDC		110110
Absolute max. rating ± 15V Full scale error ± 2 LSB Linearity error ± 2 LSB Digital outputs 6 relay outputs, 230VAC / 24 VDC Output type SPST-NO relay Type of relay Takamisawa JY-24H-K, or NAIS (Matsushita) JQ1AP-24V or OMRON G 6B - 1114P - 24VDC		
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Linearity error ± 2 LSB Digital outputs 6 relay outputs, 230VAC / 24 VDC Output type SPST-NO relay Type of relay Takamisawa JY-24H-K, or NAIS (Matsushita) JQ1AP-24V or OMRON G 6B - 1114P - 24VDC		
Digital outputs Output type Type of relay Output type Type of relay Takamisawa JY-24H-K, or NAIS (Matsushita) JQ1AP-24V or OMRON G 6B - 1114P - 24VDC		
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NAIS (Matsushita) JQ1AP-24V or OMRON G 6B - 1114P - 24VDC		
OMRON G 6B - 1114P - 24VDC	Type of relay	
Isolation by relay		OMRON G 6B - 1114P - 24VDC
	Isolation	by relay

Output current	5A max. (resistive load)
	1A max. (inductive load)
Max. frequency	10Hz
Contact protection	External precautions required
Display	STN, LCD display
Illumination	LED yellow-green backlight
Display size	1 line, 16 characters long
Character size	5 x 7 matrix, 3.07 x 5.73mm
Keypad	Sealed membrane
Number of keys	15
71.0	2010
PLC program	2048 words
Bits/Coils_	256
Integers/Registers	256
Timers	64
Execution time	12µsec. for bit operations
HMI displays	80 user-designed displays
HMI variables	50 HMI variables are available to condi-
	tionally 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	
Programming	Download user program
Network option	Via RS485/RS232 converter
CANbus	Up to 64 nodes
Baud rate range	1Kbps - 1Mbps
Cable length	25m-1000m
1/0	11 1 04 11% 11/0 1 1 1
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,
Olock (IVIO)	with typical 7 years battery back-up
Weight	280g (9.8 oz.)
Temperature	Operational 0 to +50°C
remperature	
Mounting method	Storage -20 to +60°C
woulding method	DIN-rail mounted (IP20)
	Panel mounted (IP65)





Analog-In Wiring

