MELSEC-L Series Analog I/O Modules

Analog I/O Modules

Analog input and output modules can be added on and configured easily in GX Works2 using built-in utilities.

Model Number		L60AD4 (Analog Input Module)				L60DA4 (Analog Output Module)					
Stocked Item		S				S					
Certification		UL • cUL • CE									
Number of Analog I/O	Points	4 points (ch)									
Analog I/O	Voltage	-10 to 10V	DC (Input resistan	ce value 1MΩ)		-10 to 10V	DC (External load	d resistance value	1kΩ to 1MΩ)		
Analog I/O	Current	0 to 20mA	DC (Input resistan	ce value 250Ω)		0 to 20mA	DC (External load	l resistance value	0Ω to 600Ω)		
Output		-20480 to	20479								
Digital Output	When Using Scaling Function -32768 to 32767										
				Digital Output Value	Resolution	Analog Output Range		Digital Value	Resolution		
			0 to 10V	14.40	500µV	Allalog Ot	0 to 5V	Digital value	250uV		
			0 to 5V	0 to 20000	250μV		1 to 5V	0 to 20000	200µV		
I/O Characteristics, Resolution			1 to 5V	101020000	200μV	Voltage	-10 to 10V	-20000 to	500μV		
		Voltage	-10 to 10V		500μV	vollago	Users range				
			Users range	-20000 to 20000	307μV (*1)		setting	20000	333μV (*1)		
			setting		<u> </u>		0 to 20mA	0 to 20000	1000nA		
			0 to 20mA	0 to 20000	1000nA	Current	4 to 20mA		800nA		
		Current	4 to 20mA		800nA		Users range	-20000 to	700nA (*1)		
			Users range setting	-20000 to 20000	1230nA (*1)		setting	20000	7.55(17		
	Ambient Temperature						<u> </u>				
Accuracy	Ambient Temperature 25 ±5°C	±0.1% (±20 digit)				±0.1% (voltage: ±10mA, current: ±20μA)					
Accuracy	Ambient Temperature 0 to 55°C	±0.2% (±40 digit)				±0.3% (voltage: ±30mV, current: ±60μA)					
Conversion Speed		High speed: 20µs/ch; Medium speed: 80µs/ch; Low speed: 1ms/ch				20μs/ch					
Absolute Maximum Inp	out	Voltage: ±15V, Current: 30mA (*2)				-					
Output Short Protection	n	-				Available					
External Power Supply	,					24VDC (+20%/-15%); Ripple, spike within 500mVp-p Inrush current: 4.3A, 1000us or less; Current consumption: 0.18A					
I/O Device Points Occu	ipied	16 points (I/O assignment: 1	6 points for Intell	igent function module		,,				
External Connections		18-point te	rminal block	•	-						
5VDC Internal Current	Consumption	0.52A				0.16A					
Weight (kg)		0.19				0.20					
Dimensions (W x H x D	D) mm	28.5 x 90 >	¢ 117								
,	4										

Notes:

1. Maximum resolution in users range settings.
2. Maximum instantaneous current value that will not cause destruction of the internal components. The maximum constant input current value is 24mA.

Analog I/O Modules

Model Number		L60ADVL8				L60ADIL8	L60ADIL8				
Stocked Item		S				S	S				
Certification		UL • CUL • CE									
Number of Analo	og I/O Points	8 points (8	ch)								
Analog I/O	Voltage	-10 to 10 V	DC (input resistance	e 1.8M Ω)		0 to 20mADC (input resistance 250 Ω)					
Digital Output	Output	-16384 to	16383			-8192 to 8	192				
When Using Scaling Function		-32768 to	32767								
		Analog In	put Range	Digital Output Value	Resolution			TB: 21.10.1.1			
			0 to 10V	0 to 16000	625µV	Analog In	put Range	Digital Output Value	Resolution		
			0 to 5V	0 to 8000	625µV		0 to 20mA		2500nA		
I/O Characteristi	cs. Resolution		1 to 5V		500μV		4 to 20mA	0 to 8000	2000nA		
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Voltage	-10 to 10V	-16000 to 16000 -2000 to 9000	625μV 500μV	Current	4 to 20mA (Extended mode)	-2000 to 9000	2500nA		
		(Extended mode)	2000 to 0000	0000		User range setting	-8000 to 8000	1660nA			
	Users range setting -8000 to 8000 414µV										
	Ambient Temperature										
		Analog In	Analog Input Range 25±5°C 0 to 55°C								
						Analog Input Range		Ambient Tempe	rature		
			0 to 10V	Within ±0.2% (±32 digit)	Within ±1% (±160 digit)	Analog in		25±5°C	0 to 55°C		
Accuracy (Accura	acy for the Maximum Value of		0 to 5V	Within ±0.2%	Within ±1%		0 to 20mA		Within ±1% (±80 digit)		
the Digital Outpu	ıt Value)	Voltogo	0 to 5V	(±16 digit)	(±80 digit)	Current	4 to 20mAV				
		Voltage	-10 to 10V	Within ±0.2% (±32 digit)	Within ±1% (±160 digit)	Carron	4 to 20mA (Extended mode)				
			1 to 5V (Extended mode)	Within ±0.2% (±16 digit)	Within ±1% (±80 digit)						
Conversion Spee	ad .	1ms/chann	el								
Absolute Maxim		Voltage: ±1				Current: 30)mA				
I/O Device Points			I/O assignment: Inte	elligent 16 noints)		Journalit. 00	,,,,,,				
External Connect			rminal block	mgont to points)							
	urrent Consumption	0.20A	TITITICA DIOUK			0.21A					
		0.19				0.19					
Weight (kg)		10 19				10.19					

A/D Converter Module

Mode Mumber Scoked Itole Scoked Sco	A/D Convert	er woaute								
Certification UL • CLL • CE	Model Number		L60AD4-20	iH .						
Number of Analog I/O Voltage	Stocked Item		19							
Voltage	Certification		UL•cUL•	CE						
Digital Output	Number of Analo	og I/O Points	4 points (4	channels)						
Digital Output Oto 20mAUC (Input resistance value 250.01) Output O	Analog I/O	Voltage	-10 to 10VI	DC (Input resistance value 1MΩ)						
Voltage Vol	Allalog I/O	Current	0 to 20mAl	,						
Voltage Analog Input Range	Digital Output	Output	V=111							
Voltage Voltage Voltage Voltage Voltage Voltage 156 μV 156 μV 125 μV 10 to 5V 125 μV 10 to 10V -32000 to 32000 312.5 μV 10 to 10V -32000 to 32000 200 μV -32000 to 32000 400 μV -32000 to 32000 to 3200	Digital Output	When Using Scaling Function	-32768 to 32767							
Voltage Voltage Voltage Voltage Voltage Voltage 1 to 5 V 0 to 5 V 125 μV 125 μV 125 μV 10 to 10 V -32000 to 32000 312.5 μV 10 to 10 V -32000 to 32000 312.5 μV 10 to 10 V -32000 to 32000 312.5 μV 10 to 10 V -32000 to 32000 312.5 μV 10 to 20 V -10 to 10 V -32000 to 32000 200 μV -32000 to 32000 200 μV -32000 to 32000 200 μV -32000 to 32000 -32000 to 32000 to 32000 -32000 to 32000 to 32000 -32000 to 32000 to 32000 -32000 to 32000 to 32000 to 32000 -32000 to 32000 to 3			Analog In	out Range	Digital Output Value	Maximum Resolution				
Voltage Voltage Voltage Temp Coefficient Voltage ±40.1ppm/°C or lower Voltage ±15V, Current: 30mA Voltage ±15V, Current: 30mA Voltage ±15V, Current: 30mA Voltage Setting Count Voltage: ±15V, Current: 30mA Voltage: ±			7		2.g.ta. carpat raido					
Voltage					0 to 32000	<u> </u>				
10 to 10 V -32000 to 32000 312.5 μV 1 to 5V (Extended mode) -8000 to 32000 125 μV 1 to 5V (Extended mode) -32000 to 32000 125 μV 2					70 10 02000	· · · · · · · · · · · · · · · · · · ·				
1 to 5V (Extended mode)			Voltage	* *	22000 to 22000	<u> </u>				
User range setting (bi-polar: voltage) -32000 to 32000 200µV	I/O Characteristi	I/O Characteristics Resolution								
Current Current Current Current Current Current 4 to 20mA 4 t	no onurationstros, reconution				11111111111					
Accuracy for the Max. Value of Digital Output Value Temp Coefficient ±40.1ppm/°C or lower					-32000 10 32000	<u> </u>				
Accuracy for the Max. Value of Digital Output Value Emp Coefficient 4 to 20mA (Extended mode) -8000 to 32000 500nA 400nA					0 to 32000					
User range setting (uni-polar: current) 0 to 32000 400nA			Current		-8000 to 32000					
Accuracy for the Max. Value of Digital Output Value of Digital Output Value and Digital Output Value of Digital Output Value of Digital Output Value and Digital Output Maximum Input and Voltage: ±15V, Current: 30mA 40μ/2 channels Absolute Maximum Input Offset/Gain Setting Count Up to 100000 counts Up to 100000 counts Insulation Method Between I/O terminals and programmable controller power supply: photocoupler isolation; Between analog input channels: dual channel transformer insulation Dielectric Withstand Voltage Between I/O terminals and programmable controller power supply: 500VAC for 1 minute; Between analog input channels: 1000VAC for 1 minute Insulation Resistance Between I/O terminals and programmable controller power supply: 500VDC 10MΩ or higher Number of Occupied I/O Points 16 points (I/O assignment: 16 points for intelligent) Connected Terminal 18-point terminal block Applicable Wire Size 0.3 to 0.75mm² Applicable Solderless Terminal R1.25-3 (solderless terminals with sleeve are not usable) 5VDC Internal Current Consumption 0.76A Weight (kg) 0.20										
the Max. Value of Digital Output Value Temp Coefficient ±40.1ppm/°C or lower Conversion Speed 40μ/2 channels Absolute Maximum Input Voltage: ±15V, Current: 30mA Offset/Gain Setting Count Up to 100000 counts Insulation Method Between I/O terminals and programmable controller power supply: photocoupler isolation; Between analog input channels: dual channel transformer insulation Dielectric Withstand Voltage Between I/O terminals and programmable controller power supply: 500VAC for 1 minute; Between analog input channels: 1000VAC for 1 minute Insulation Resistance Between I/O terminals and programmable controller power supply: 500VDC 10MΩ or higher Number of Occupied I/O Points 16 points (I/O assignment: 16 points for intelligent) Connected Terminal 18-point terminal block Applicable Wire Size 0.3 to 0.75mm² Applicable Solderless Terminal R1.25-3 (solderless terminals with sleeve are not usable) 5VDC Internal Current Consumption 0.76A Weight (kg) 0.20					10 10 02000	1001111				
of Digital Output Value ±40.1ppm/°C or lower Conversion Speed 40μ/2 channels Absolute Maximum Input Voltage: ±15V, Current: 30mA Offset/Gain Setting Count Up to 100000 counts Insulation Method Between I/0 terminals and programmable controller power supply: photocoupler isolation; Between analog input channels: dual channel transformer insulation Dielectric Withstand Voltage Between I/0 terminals and programmable controller power supply: 500VAC for 1 minute; Between analog input channels: 1000VAC for 1 minute Insulation Resistance Between I/0 terminals and programmable controller power supply: 500VDC 10MΩ or higher Number of Occupied I/O Points 16 points (I/O assignment: 16 points for intelligent) Connected Terminal 18-point terminal block Applicable Wire Size 0.3 to 0.75mm² Applicable Solderless Terminal R1.25-3 (solderless terminals with sleeve are not usable) 5VDC Internal Current Consumption 0.76A Weight (kg)		Reference Accuracy	Within ±0.0	05% (±16 digit)						
Output Value Conversion Speed 40μ/2 channels Absolute Maximum Input Voltage: ±15V, Current: 30mA Offset/Gain Setting Count Up to 100000 counts Insulation Method Between I/O terminals and programmable controller power supply: photocoupler isolation; Between analog input channels: dual channel transformer insulation Dielectric Withstand Voltage Between I/O terminals and programmable controller power supply: 500VAC for 1 minute; Between analog input channels: 1000VAC for 1 minute Insulation Resistance Between I/O terminals and programmable controller power supply: 500VDC 10MΩ or higher Number of Occupied I/O Points 16 points (I/O assignment: 16 points for intelligent) Connected Terminal 18-point terminal block Applicable Wire Size 0.3 to 0.75mm² Applicable Solderless Terminal R1.25-3 (solderless terminals with sleeve are not usable) SVDC Internal Current Consumption 0.76A Weight (kg) 0.20		Temp Coefficient	±40.1ppm/	°C or lower						
Absolute Maximum Input Voltage: ±15V, Current: 30mA Offset/Gain Setting Count Up to 100000 counts Insulation Method Between I/O terminals and programmable controller power supply: photocoupler isolation; Between analog input channels: dual channel transformer insulation Dielectric Withstand Voltage Between I/O terminals and programmable controller power supply: 500VAC for 1 minute; Between analog input channels: 1000VAC for 1 minute Insulation Resistance Between I/O terminals and programmable controller power supply: 500VDC 10MΩ or higher Number of Occupied I/O Points 16 points (I/O assignment: 16 points for intelligent) Connected Terminal 18-point terminal block Applicable Wire Size 0.3 to 0.75mm² Applicable Solderless Terminal R1.25-3 (solderless terminals with sleeve are not usable) 5VDC Internal Current Consumption 0.76A Weight (kg) 0.20	Output Value									
Offset/Gain Setting Count Up to 100000 counts Insulation Method Between I/O terminals and programmable controller power supply: photocoupler isolation; Between analog input channels: dual channel transformer insulation Dielectric Withstand Voltage Between I/O terminals and programmable controller power supply: 500VAC for 1 minute; Between analog input channels: 1000VAC for 1 minute Insulation Resistance Between I/O terminals and programmable controller power supply: 500VDC 10MΩ or higher Number of Occupied I/O Points 16 points (I/O assignment: 16 points for intelligent) Connected Terminal 18-point terminal block Applicable Wire Size 0.3 to 0.75mm² Applicable Solderless Terminal R1.25-3 (solderless terminals with sleeve are not usable) 5VDC Internal Current Consumption 0.76A Weight (kg) 0.20	Conversion Spee	ed								
Between I/O terminals and programmable controller power supply: photocoupler isolation; Between analog input channels: dual channel transformer insulation										
Between analog input channels: dual channel transformer insulation Between l/O terminals and programmable controller power supply: 500VAC for 1 minute; Between analog input channels: 1000VAC for 1 minute Insulation Resistance Between l/O terminals and programmable controller power supply: 500VDC 10MΩ or higher Number of Occupied I/O Points 16 points (I/O assignment: 16 points for intelligent) Connected Terminal 18-point terminal block Applicable Wire Size Applicable Solderless Terminal R1.25-3 (solderless terminals with sleeve are not usable) 5VDC Internal Current Consumption 0.76A Weight (kg) 0.20	Offset/Gain Setti	ng Count	1 - 1							
Between analog input channels: dual channel transformer insulation Between I/O terminals and programmable controller power supply: 500VAC for 1 minute; Between analog input channels: 1000VAC for 1 minute Insulation Resistance Between I/O terminals and programmable controller power supply: 500VDC 10MΩ or higher Number of Occupied I/O Points 16 points (I/O assignment: 16 points for intelligent) Connected Terminal 18-point terminal block Applicable Wire Size 0.3 to 0.75mm² Applicable Solderless Terminal R1.25-3 (solderless terminals with sleeve are not usable) 5VDC Internal Current Consumption 0.76A Weight (kg) 0.20	Insulation Metho	nd								
Insulation Resistance Between analog input channels: 1000VAC for 1 minute Number of Occupied I/O Points 16 points (I/O assignment: 16 points for intelligent) Connected Terminal 18-point terminal block Applicable Wire Size 0.3 to 0.75mm² Applicable Solderless Terminal R1.25-3 (solderless terminals with sleeve are not usable) SVDC Internal Current Consumption 0.76A Weight (kg) 0.20										
Insulation Resistance Between I/O terminals and programmable controller power supply: 500VDC 10MΩ or higher Number of Occupied I/O Points 16 points (I/O assignment: 16 points for intelligent) Connected Terminal 18-point terminal block Applicable Wire Size 0.3 to 0.75mm² Applicable Solderless Terminal R1.25-3 (solderless terminals with sleeve are not usable) 5VDC Internal Current Consumption 0.76A Weight (kg) 0.20	Dielectric Withs	tand Voltage	Between I/O terminals and programmable controller power supply: 500VAC for 1 minute;							
Number of Occupied I/O Points 16 points (I/O assignment: 16 points for intelligent) Connected Terminal 18-point terminal block Applicable Wire Size 0.3 to 0.75mm² Applicable Solderless Terminal R1.25-3 (solderless terminals with sleeve are not usable) 5VDC Internal Current Consumption 0.76A Weight (kg) 0.20	Inculation Bosis	tance								
Connected Terminal 18-point terminal block Applicable Wire Size 0.3 to 0.75mm² Applicable Solderless Terminal R1.25-3 (solderless terminals with sleeve are not usable) 5VDC Internal Current Consumption 0.76A Weight (kg) 0.20										
Applicable Wire Size 0.3 to 0.75mm² Applicable Solderless Terminal R1.25-3 (solderless terminals with sleeve are not usable) 5VDC Internal Current Consumption 0.76A Weight (kg) 0.20		· · · · · · · · · · · · · · · · · · ·		1 7						
Applicable Solderless Terminal R1.25-3 (solderless terminals with sleeve are not usable) 5VDC Internal Current Consumption 0.76A Weight (kg) 0.20			'							
5VDC Internal Current Consumption 0.76A Weight (kg) 0.20										
Weight (kg) 0.20				order root to minute with short and not usually						
Dimensions (W x H x D) mm 28.5 x 90 x 117		x H x D) mm	28.5 x 90 x	117						

D/A Converter Modules

Model Number		L60DAVL8				L60DAIL8					
Stocked Item		-					-				
Certification		UL • CUL • CE									
Number of Analo	g I/O Points	8 channels	3								
Digital Input	Digital Input		16383 scaling function is u				scaling function is u				
Analog Output		-10 to 10 \	/DC (external load re	sistance 1k Ω to 1N	ΙΩ)	0 to 20 mA	ADC (external load re	sistance 0Ω to 60	0Ω)		
		Analog U	utput Range	Digital Value	Resolution	Analog O	utput Range	Digital Value	Resolution		
			0 to 5V	0 to 8000	625µV		0 to 20mA		2500nA		
I/O Characteristic	cs, Resolution (*1)	Voltage	1 to 5V	0 10 0000	500μV	Current	4 to 20mA	0 to 8000	2000nA		
		Tonago	-10 to 10V	-16000 to 16000	625µV	Guiront	User range setting	-8000 to 8000	707nA (*2)		
			User range setting	-8000 to 8000	320µV (*2)		Osci range setting	0000 10 0000	70711A (2)		
Accuracy for the	Ambient Temperature 25±5°C	Within ±0.	3% (±30mV)			Within ±0	3% (±60μA)				
Max. Value of	·	VVILIIIII ±0.	3 /6 (±30111V)			WILLIIII ±0.	3 /0 (±00μA)				
Digital Output Value (*3)	Ambient Temperature 0 to 55°C	Within ±0.5% (±50mV)				Within ±.0% (±200µA)					
Conversion	Normal Output Mode	200µs/cha	nnel			•					
Speed	Wave Output Mode	200µs/cha	200µs/channel								
Number of Offset	/Gain Settings	Up to 10000 counts									
Output Short Prot	tection	Protected									
Insulation Metho	d	Between I/O terminals and programmable controller power supply: photocoupler isolation Between output channels: no insulation Between external power supply and analog output: transformer insulation									
Dielectric Withst	and Voltage	Between I/O terminals and programmable controller power supply: 500VACrms for 1 minute Between external power supply and analog output: 500VACrms for 1 minute									
Insulation Resist	ance	Between I/O terminals and programmable controller power supply: 500VDC 10MΩ or higher									
Number of Occup	pied I/O Points	16 points (I/O assignment: Intelligent 16 points)									
Number of Occup	pied Modules	2									
External Interface	e	18-point te	erminal block								
Applicable Wire	Size	0.3 to 0.75	0.3 to 0.75mm²								
Applicable Solde	rless Terminal	R1.25-3 (solderless terminals with sleeve are not usable)									
External Power S	Supply	24VDC +20	0%, -15%, Ripple, sp	ike 500mVP-P or I	ower, İnrush cur	rent: 3.9A, 2	.0ms or shorter				
External Current	Consumption	0.13A				0.25A					
5VDC Internal Cu	rrent Consumption	0.15A									
Weight (kg)		0.22									
Dimensions (W x	H x D) mm	90 x 45 x 1	117			90 x 45 x	117				

- Notes:
 1. For details on the I/O conversion characteristics, refer to I/O Conversion Characteristic of D/A Conversion in the manual.
 2. Maximum resolution in the user range setting.
 3. Except when receiving noise influence.

Combination Analog Module

Model Number									
		L60AD2DA	2						
Stocked Item		S							
Certification		UL•cUL•							
Number of Analog Outpu		2 points (2 channels)							
Number of Analog Input	Points	2 points (2							
	nput	-16384 to 1	16383						
Digital Input V	Vith Scaling Function	-32768 to 3	32767						
Annalan Ontrod	/oltage	-10 to 10VI	DC (external load resistance 1kΩ	to 1MΩ)					
Analog Output C	Current	0 to 20mA[DC (External load resistance 0Ω t	:ο 600Ω)					
V	/oltage	-10 to 10 V	'DC (input resistance 1MΩ)	,					
Anaion inniit —	Current		OC (input resistance 250Ω)						
n	Output	-16384 to 1	,						
HIIDITAL HIITDIIT -	Vith Scaling Function	-32768 to 3							
			itput Range	Digital Input Value	Decelution				
		Allalog ou	0 to 5V	Digital lilput value	Resolution				
			1 to 5V	0 to 12000	416μV 333μV				
		Voltage		10000 to 10000					
		voltage	-10 to 10V	-16000 to 16000	625µV				
			User Range Setting	-12000 to 12000	319µV (*2)				
			(Bi-Polar: Voltage) 0 to 20mA		100-1				
		0		0 to 12000	166nA				
		Current	4 to 20mA	10000 + 10000	1333nA				
			User Range Setting	-12000 to 12000	696nA (*2)				
		1 Analog	Input Range	2. Digital Output Value	3. Resolution				
		- Allaidy	5. 0 to 10V	6. 0 to 16000	7. 625µV				
I/O Characteristics, Reso	olution (*1)		8. 0 to 5V		10. 416μV				
			11. 1 to 5V	9. 0 to 12000	12. 333µV				
			1310 to 10V	1416000 to 16000	15. 625µV				
			16. 1 to 5V (Extended mode)	173000 to 13500	· · · · · · · · · · · · · · · · · · ·				
			19. User Range Setting	173000 10 13300	18. 333µV				
				201200 to 12000	21. 321µV				
			(Voltage)		or 1666nA				
			23. 0 to 20mA 26. 4 to 20mA	24. 0 to 12000	25. 1666nA 27. 1333nA				
			28. 4 to 20mA (Extended		21. 13331IA				
			mode)	293000 to 13500	30. 1333nA				
			31. User Range Setting						
			(Current)	3212000 to 12000	33. 1287nA (*2)				
			(Controlle)	<u> </u>					
		Analon Ou	itnut Banne	Ambient Temperature					
		Analog Ou	tput Range	Ambient Temperature 25 ±5°	0 to 55°				
		Analog Ou	o to 5V	25 ±5°					
		Analog Ou Voltage		· · · · · · · · · · · · · · · · · · ·	0 to 55° Within ±0.4% (±20mV)				
			0 to 5V 1 to 5V	25 ±5° Within ±0.2% (±10mV)	Within ±0.4% (±20mV)				
			0 to 5V 1 to 5V -10 to 10V	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV)	Within ±0.4% (±20mV) Within ±0.4% (±40mV)				
			0 to 5V 1 to 5V -10 to 10V 0 to 20mA	25 ±5° Within ±0.2% (±10mV)	Within ±0.4% (±20mV)				
		Voltage	0 to 5V 1 to 5V -10 to 10V	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV)	Within ±0.4% (±20mV) Within ±0.4% (±40mV)				
Accuracy (Accuracy for the	ho Mavimum Value of	Voltage Current	0 to 5V 1 to 5V -10 to 10V 0 to 20mA 4 to 20mA	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV) Within ±0.2% (±40µA) 35. Ambient Temperatur	Within ±0.4% (±20mV) Within ±0.4% (±40mV) Within ±0.4% (±80μA)	1			
Accuracy (Accuracy for the Analon Output Value		Voltage Current	0 to 5V 1 to 5V -10 to 10V 0 to 20mA	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV) Within ±0.2% (±40μA)	Within ±0.4% (±20mV) Within ±0.4% (±40mV) Within ±0.4% (±80μA)				
Accuracy (Accuracy for ti the Analog Output Value		Voltage Current	0 to 5V 1 to 5V -10 to 10V 0 to 20mA 4 to 20mA	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV) Within ±0.2% (±40μA) 35. Ambient Temperatur 36. 25±5° C	Within ±0.4% (±20mV) Within ±0.4% (±40mV) Within ±0.4% (±80μA) e 37. 0~55° C				
		Voltage Current	0 to 5V 1 to 5V -10 to 10V 0 to 20mA 4 to 20mA	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV) Within ±0.2% (±40µA) 35. Ambient Temperatur	Within ±0.4% (±20mV) Within ±0.4% (±40mV) Within ±0.4% (±80μA)				
		Voltage Current	0 to 5V 1 to 5V -10 to 10V 0 to 20mA 4 to 20mA Input Range 39. 0 to 10V	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV) Within ±0.2% (±40μA) 35. Ambient Temperatur 36. 25±5° C	Within ±0.4% (±20mV) Within ±0.4% (±40mV) Within ±0.4% (±80μA) e 37. 0~55° C	<u>.</u>			
		Voltage Current	0 to 5V 1 to 5V -10 to 10V 0 to 20mA 4 to 20mA Input Range 39. 0 to 10V 4210 to 10V	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV) Within ±0.2% (±40μA) 35. Ambient Temperatur 36. 25±5° C	Within ±0.4% (±20mV) Within ±0.4% (±40mV) Within ±0.4% (±80μA) e 37. 0~55° C	• -			
		Voltage Current	0 to 5V 1 to 5V -10 to 10V 0 to 20mA 4 to 20mA Input Range 39. 0 to 10V 4210 to 10V 43. 0 to 5V	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV) Within ±0.2% (±40μA) 35. Ambient Temperatur 36. 25±5° C	Within ±0.4% (±20mV) Within ±0.4% (±40mV) Within ±0.4% (±80μA) e 37. 0~55° C				
		Voltage Current	0 to 5V 1 to 5V -10 to 10V 0 to 20mA 4 to 20mA Input Range 39. 0 to 10V 4210 to 10V 43. 0 to 5V 46. 1 to 5V	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV) Within ±0.2% (±40μA) 35. Ambient Temperatur 36. 25±5° C	Within ±0.4% (±20mV) Within ±0.4% (±40mV) Within ±0.4% (±80μA) e 37. 0~55° C				
		Voltage Current	0 to 5V	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV) Within ±0.2% (±40μA) 35. Ambient Temperatur 36. 25±5° C 40. ±0.2% (±32 digit)	Within ±0.4% (±20mV) Within ±0.4% (±40mV) Within ±0.4% (±80µA) e 37. 0~55° C 41. ± 0.3% (±48 digit)				
		Voltage Current	0 to 5V 1 to 5V -10 to 10V 0 to 20mA 4 to 20mA Input Range 39. 0 to 10V 4210 to 10V 43. 0 to 5V 46. 1 to 5V 47. 1 to 5V (Extended mode) 49. 0 to 20mA 50. 4 to 20mA	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV) Within ±0.2% (±40μA) 35. Ambient Temperatur 36. 25±5° C 40. ±0.2% (±32 digit)	Within ±0.4% (±20mV) Within ±0.4% (±40mV) Within ±0.4% (±80µA) e 37. 0~55° C 41. ± 0.3% (±48 digit)				
		Voltage Current	0 to 5V	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV) Within ±0.2% (±40μA) 35. Ambient Temperatur 36. 25±5° C 40. ±0.2% (±32 digit)	Within ±0.4% (±20mV) Within ±0.4% (±40mV) Within ±0.4% (±80µA) e 37. 0~55° C 41. ± 0.3% (±48 digit)				
the Analog Output Value		Voltage Current 34. Analog	0 to 5V 1 to 5V -10 to 10V 0 to 20mA 4 to 20mA Input Range 39. 0 to 10V 4210 to 10V 43. 0 to 5V 46. 1 to 5V 47. 1 to 5V (Extended mode) 49. 0 to 20mA 50. 4 to 20mA 51. 4 to 20 mA (Extended mode)	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV) Within ±0.2% (±40μA) 35. Ambient Temperatur 36. 25±5° C 40. ±0.2% (±32 digit)	Within ±0.4% (±20mV) Within ±0.4% (±40mV) Within ±0.4% (±80µA) e 37. 0~55° C 41. ± 0.3% (±48 digit)				
the Analog Output Value		Voltage Current 34. Analog	0 to 5V 1 to 5V -10 to 10V 0 to 20mA 4 to 20mA Input Range 39. 0 to 10V 4210 to 10V 43. 0 to 5V 46. 1 to 5V 47. 1 to 5V (Extended mode) 49. 0 to 20mA 50. 4 to 20mA 51. 4 to 20 mA (Extended mode)	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV) Within ±0.2% (±40μA) 35. Ambient Temperatur 36. 25±5° C 40. ±0.2% (±32 digit)	Within ±0.4% (±20mV) Within ±0.4% (±40mV) Within ±0.4% (±80µA) e 37. 0~55° C 41. ± 0.3% (±48 digit)				
Conversion Speed Output Short Protection Offset/Gain Setting Coun) (*3)	Voltage Current 34. Analog	0 to 5V 1 to 5V -10 to 10V 0 to 20mA 4 to 20mA Input Range 39. 0 to 10V 4210 to 10V 43. 0 to 5V 46. 1 to 5V 47. 1 to 5V (Extended mode) 49. 0 to 20mA 50. 4 to 20mA 51. 4 to 20 mA (Extended mode) el (*4)	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV) Within ±0.2% (±40μA) 35. Ambient Temperatur 36. 25±5° C 40. ±0.2% (±32 digit)	Within ±0.4% (±20mV) Within ±0.4% (±40mV) Within ±0.4% (±80µA) e 37. 0~55° C 41. ± 0.3% (±48 digit)				
the Analog Output Value) (*3)	Voltage Current 34. Analog 80µ/channe Protected Up to 1000 Between I/0	0 to 5V 1 to 5V -10 to 10V 0 to 20mA 4 to 20mA Input Range 39. 0 to 10V 4210 to 10V 43. 0 to 5V 46. 1 to 5V 47. 1 to 5V (Extended mode) 49. 0 to 20mA 50. 4 to 20mA 51. 4 to 20 mA (Extended mode) el (*4) 00 counts 0 terminals and programmable of	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV) Within ±0.2% (±40μA) 35. Ambient Temperatur 36. 25±5° C 40. ±0.2% (±32 digit) 44. ± 0.2% (± 24 digit) ontroller power supply: ph	Within ±0.4% (±20mV) Within ±0.4% (±40mV) Within ±0.4% (±80µA) e 37. 0~55° C 41. ± 0.3% (±48 digit) 45. ± 0.3% (± 36 digit)	en I/O channels: no isolation			
Conversion Speed Output Short Protection Offset/Gain Setting Coun Write Count) (*5) Insulation Method) (*3) nt (Flash Memory	Voltage Current 34. Analog 80µ/channe Protected Up to 1000 Between I/C Between th	0 to 5V 1 to 5V -10 to 10V 0 to 20mA 4 to 20mA Input Range 39. 0 to 10V 4210 to 10V 43. 0 to 5V 46. 1 to 5V 47. 1 to 5V (Extended mode) 49. 0 to 20mA 50. 4 to 20mA 51. 4 to 20 mA (Extended mode) el (*4) 00 counts 0 terminals and programmable ce external power supply and ana	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV) Within ±0.2% (±40μA) 35. Ambient Temperatur 36. 25±5° C 40. ±0.2% (±32 digit) 44. ± 0.2% (± 24 digit) ontroller power supply: pholog I/O channels: transform	Within ±0.4% (±20mV) Within ±0.4% (±40mV) Within ±0.4% (±80µA) e 37. 0~55° C 41. ± 0.3% (±48 digit) 45. ± 0.3% (± 36 digit)	en I/O channels: no isolation			
Conversion Speed Output Short Protection Offset/Gain Setting Coun Write Count) (*5)) (*3) nt (Flash Memory	Voltage Current 34. Analog 80µ/channe Protected Up to 1000 Between I/0 Between I/0 Between I/0	1 to 5V 1 to 5V 1 to 5V 1 to 5V -10 to 10V 0 to 20mA 4 to 20mA Input Range 39. 0 to 10V 4210 to 10V 43. 0 to 5V 46. 1 to 5V 47. 1 to 5V (Extended mode) 49. 0 to 20mA 50. 4 to 20mA 51. 4 to 20 mA (Extended mode) el (*4) 00 counts D terminals and programmable coe external power supply and anallo terminals and programmable coe external power supply and anallo terminals and programmable coe external power supply and anallo terminals and programmable coe external power supply and anallo terminals and programmable coe external power supply and anallo terminals and programmable coe external power supply and anallo terminals and programmable coe external power supply and anallo terminals and programmable coefficients and	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV) Within ±0.2% (±40μA) 35. Ambient Temperatur 36. 25±5° C 40. ±0.2% (±32 digit) 44. ± 0.2% (± 24 digit) ontroller power supply: pholog I/O channels: transformontroller power supply: 50	Within ±0.4% (±20mV) Within ±0.4% (±40mV) Within ±0.4% (±80µA) e 37. 0~55° C 41. ± 0.3% (±48 digit) 45. ± 0.3% (± 36 digit) otocoupler isolation; Betwe ther isolation DVAC for 1 minute;	en I/O channels: no isolation			
Conversion Speed Output Short Protection Offset/Gain Setting Coun Write Count) (*5) Insulation Method) (*3) nt (Flash Memory	Voltage Current 34. Analog 80µ/channe Protected Up to 1000 Between I/C Between I/C Between the	0 to 5V 1 to 5V 1 to 5V -10 to 10V 0 to 20mA 4 to 20mA Input Range 39. 0 to 10V 4210 to 10V 43. 0 to 5V 46. 1 to 5V 47. 1 to 5V (Extended mode) 49. 0 to 20mA 50. 4 to 20mA 51. 4 to 20 mA (Extended mode) el (*4) 00 counts 0 terminals and programmable ce external power supply and analogue exte	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV) Within ±0.2% (±40μA) 35. Ambient Temperatur 36. 25±5° C 40. ±0.2% (±32 digit) 44. ± 0.2% (± 24 digit) ontroller power supply: philog I/O channels: transform ontroller power supply: 50 gr I/O: 500VAC for 1 minute	Within ±0.4% (±20mV) Within ±0.4% (±40mV) Within ±0.4% (±80µA) e 37. 0~55° C 41. ± 0.3% (±48 digit) 45. ± 0.3% (± 36 digit) potocoupler isolation; Betweener isolation DVAC for 1 minute;	en I/O channels: no isolation			
Conversion Speed Output Short Protection Offset/Gain Setting Coun Write Count) (*5) Insulation Method Dielectric Withstand Vol Insulation Resistance	nt (Flash Memory	80µ/channe Protected Up to 1000 Between I/0 Between th Between th Between I/0	0 to 5V 1 to 5V 1 to 5V -10 to 10V 0 to 20mA 4 to 20mA Input Range 39. 0 to 10V 4210 to 10V 43. 0 to 5V 46. 1 to 5V 47. 1 to 5V (Extended mode) 49. 0 to 20mA 50. 4 to 20mA 51. 4 to 20 mA (Extended mode) el (*4) 00 counts 0 terminals and programmable ce external power supply and analod terminals and programmable ce external power supply and analod terminals and programmable coe external power supply and analod terminals and programmable c	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV) Within ±0.2% (±40μA) 35. Ambient Temperatur 36. 25±5° C 40. ±0.2% (±32 digit) 44. ± 0.2% (± 24 digit) ontroller power supply: philog I/O channels: transform ontroller power supply: 50 gr I/O: 500VAC for 1 minutontroller power supply: 50 gr I/O: 500VAC for 1 minutontroller power supply: 50	Within ±0.4% (±20mV) Within ±0.4% (±40mV) Within ±0.4% (±80µA) e 37. 0~55° C 41. ± 0.3% (±48 digit) 45. ± 0.3% (± 36 digit) potocoupler isolation; Betweener isolation DVAC for 1 minute;	en I/O channels: no isolation			
Conversion Speed Output Short Protection Offset/Gain Setting Coun Write Count) (*5) Insulation Method Dielectric Withstand Vol Insulation Resistance Number of Occupied I/O	nt (Flash Memory	80µ/channe Protected Up to 1000 Between I/0 Between I/0 Between the Between I/0 The protected I/0 Between I/0 Between I/0 Between I/0	0 to 5V 1 to 5V 1 to 5V -10 to 10V 0 to 20mA 4 to 20mA Input Range 39. 0 to 10V 4210 to 10V 43. 0 to 5V 46. 1 to 5V 47. 1 to 5V (Extended mode) 49. 0 to 20mA 50. 4 to 20mA 51. 4 to 20 mA (Extended mode) el (*4) 00 counts 0 terminals and programmable ce external power supply and analonal conterminals and programmable ce external power supply and analonal conterminals and programmable conte	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV) Within ±0.2% (±40μA) 35. Ambient Temperatur 36. 25±5° C 40. ±0.2% (±32 digit) 44. ± 0.2% (± 24 digit) ontroller power supply: philog I/O channels: transform ontroller power supply: 50 gr I/O: 500VAC for 1 minutontroller power supply: 50 gr I/O: 500VAC for 1 minutontroller power supply: 50	Within ±0.4% (±20mV) Within ±0.4% (±40mV) Within ±0.4% (±80µA) e 37. 0~55° C 41. ± 0.3% (±48 digit) 45. ± 0.3% (± 36 digit) potocoupler isolation; Betweener isolation DVAC for 1 minute;	en I/O channels: no isolation			
Conversion Speed Output Short Protection Offset/Gain Setting Coun Write Count) (*5) Insulation Method Dielectric Withstand Vol Insulation Resistance Number of Occupied I/O Connected Terminal	nt (Flash Memory	80µ/channe Protected Up to 1000 Between I/G Between I/G Between I/G Between I/G Between I/G 16 points (in 18-point te	0 to 5V 1 to 5V -10 to 10V 0 to 20mA 4 to 20mA Input Range 39. 0 to 10V 4210 to 10V 43. 0 to 5V 46. 1 to 5V 47. 1 to 5V (Extended mode) 49. 0 to 20mA 50. 4 to 20mA 51. 4 to 20 mA (Extended mode) el (*4) 00 counts 0 terminals and programmable concernal power supply and analous terminals and programmable concernations and programmable concernations and programmable c	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV) Within ±0.2% (±40μA) 35. Ambient Temperatur 36. 25±5° C 40. ±0.2% (±32 digit) 44. ± 0.2% (± 24 digit) ontroller power supply: philog I/O channels: transform ontroller power supply: 50 gr I/O: 500VAC for 1 minutontroller power supply: 50 gr I/O: 500VAC for 1 minutontroller power supply: 50	Within ±0.4% (±20mV) Within ±0.4% (±40mV) Within ±0.4% (±80µA) 8 37. 0~55° C 41. ± 0.3% (±48 digit) 45. ± 0.3% (± 36 digit) Discoupler isolation; Betweener isolation DVAC for 1 minute;	en I/O channels: no isolation			
Conversion Speed Output Short Protection Offset/Gain Setting Coun Write Count) (*5) Insulation Method Dielectric Withstand Vol Insulation Resistance Number of Occupied I/O Connected Terminal Applicable Wire Size	nt (Flash Memory tage	80µ/channe Protected Up to 1000 Between I/C Between th Between I/C 16 points (in 18-point te 19-03 to 0.75)	0 to 5V 1 to 5V 1 to 5V -10 to 10V 0 to 20mA 4 to 20mA Input Range 39. 0 to 10V 4210 to 10V 43. 0 to 5V 46. 1 to 5V 47. 1 to 5V (Extended mode) 49. 0 to 20mA 50. 4 to 20mA 51. 4 to 20 mA (Extended mode) el (*4) Ou counts Outerminals and programmable of external power supply and analous terminals and programmable of external pwer supply and analous terminals and programmable of external pwer supply and analous terminals and programmable of external pwer supply and analous terminals and programmable of external pwer supply and analous terminals and programmable of external pwer supply and analous terminals and programmable of terminals and programmable of external pwer supply and analous terminals and programmable of external pwer supply and analous terminal block	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV) Within ±0.2% (±40µA) 35. Ambient Temperatur 36. 25±5° C 40. ±0.2% (±32 digit) 44. ± 0.2% (± 24 digit) ontroller power supply: phonomore supply: 50 option ontroller power supply: 50 option of the power supply: 50 option of th	Within ±0.4% (±20mV) Within ±0.4% (±40mV) Within ±0.4% (±80µA) 8 37. 0~55° C 41. ± 0.3% (±48 digit) 45. ± 0.3% (± 36 digit) Discoupler isolation; Betweener isolation DVAC for 1 minute;	en I/O channels: no isolation			
Conversion Speed Output Short Protection Offset/Gain Setting Coun Write Count) (*5) Insulation Method Dielectric Withstand Vol Insulation Resistance Number of Occupied I/O Connected Terminal Applicable Wire Size Applicable Solderless Te	nt (Flash Memory tage	Voltage Current 34. Analog 80µ/channe Protected Up to 1000 Between I/0 Between I/0 Between I/0 16 points (() 18-point te 0.3 to 0.75 R1.25-3 (so	0 to 5V 1 to 5V 1 to 5V -10 to 10V 0 to 20mA 4 to 20mA Input Range 39. 0 to 10V 4210 to 10V 43. 0 to 5V 46. 1 to 5V 47. 1 to 5V (Extended mode) 49. 0 to 20mA 50. 4 to 20mA 51. 4 to 20 mA (Extended mode) el (*4) 00 counts 0 terminals and programmable ce external power supply and anal of terminals and programmable ce external power supply and anal of terminals and programmable ce (external power supply and anal of terminals and programmable conterminals and programmable contermi	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV) Within ±0.2% (±40μA) 35. Ambient Temperatur 36. 25±5° C 40. ±0.2% (±32 digit) 44. ± 0.2% (± 24 digit) ontroller power supply: phonoritoller power supply: 50 or 10 g I/O channels: transform ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 1 minute ontroller power	Within ±0.4% (±20mV) Within ±0.4% (±40mV) Within ±0.4% (±80μA) e 37. 0~55° C 41. ± 0.3% (±48 digit) 45. ± 0.3% (± 36 digit) otocoupler isolation; Between isolation DVAC for 1 minute; OVDC 10MΩ or higher				
Conversion Speed Output Short Protection Offset/Gain Setting Coun Write Count) (*5) Insulation Method Dielectric Withstand Vol Insulation Resistance Number of Occupied I/O Connected Terminal Applicable Wire Size Applicable Solderless Te External Power Supply	at (Flash Memory tage Points	80µ/channe Protected Up to 1000 Between I/0 Between I/0 Between I/0 18-points (1 18-point te 0.3 to 0.75; R1.25-3 (so 24VDC +20	0 to 5V 1 to 5V 1 to 5V -10 to 10V 0 to 20mA 4 to 20mA Input Range 39. 0 to 10V 4210 to 10V 43. 0 to 5V 46. 1 to 5V 47. 1 to 5V (Extended mode) 49. 0 to 20mA 50. 4 to 20mA 51. 4 to 20 mA (Extended mode) el (*4) Ou counts Outerminals and programmable of external power supply and analous terminals and programmable of external pwer supply and analous terminals and programmable of external pwer supply and analous terminals and programmable of external pwer supply and analous terminals and programmable of external pwer supply and analous terminals and programmable of external pwer supply and analous terminals and programmable of terminals and programmable of external pwer supply and analous terminals and programmable of external pwer supply and analous terminal block	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV) Within ±0.2% (±40μA) 35. Ambient Temperatur 36. 25±5° C 40. ±0.2% (±32 digit) 44. ± 0.2% (± 24 digit) ontroller power supply: phonoritoller power supply: 50 or 10 g I/O channels: transform ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 1 minute ontroller power	Within ±0.4% (±20mV) Within ±0.4% (±40mV) Within ±0.4% (±80μA) e 37. 0~55° C 41. ± 0.3% (±48 digit) 45. ± 0.3% (± 36 digit) otocoupler isolation; Between isolation DVAC for 1 minute; OVDC 10MΩ or higher				
Conversion Speed Output Short Protection Offset/Gain Setting Coun Write Count) (*5) Insulation Method Dielectric Withstand Vol Insulation Resistance Number of Occupied I/O Connected Terminal Applicable Wire Size Applicable Solderless Te External Power Supply Internal Current Consum	at (Flash Memory tage Points	Voltage Current 34. Analog 80µ/channe Protected Up to 1000 Between I/C Between th Between I/C Between I/C 16 points ((18-point te 0.3 to 0.75 R1.25-3 (st 24VDC +20 0.17A	0 to 5V 1 to 5V 1 to 5V -10 to 10V 0 to 20mA 4 to 20mA Input Range 39. 0 to 10V 4210 to 10V 43. 0 to 5V 46. 1 to 5V 47. 1 to 5V (Extended mode) 49. 0 to 20mA 50. 4 to 20mA 51. 4 to 20 mA (Extended mode) el (*4) 00 counts 0 terminals and programmable ce external power supply and anal of terminals and programmable ce external power supply and anal of terminals and programmable ce (external power supply and anal of terminals and programmable conterminals and programmable contermi	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV) Within ±0.2% (±40μA) 35. Ambient Temperatur 36. 25±5° C 40. ±0.2% (±32 digit) 44. ± 0.2% (± 24 digit) ontroller power supply: phonoritoller power supply: 50 or 10 g I/O channels: transform ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 1 minute ontroller power	Within ±0.4% (±20mV) Within ±0.4% (±40mV) Within ±0.4% (±80μA) e 37. 0~55° C 41. ± 0.3% (±48 digit) 45. ± 0.3% (± 36 digit) otocoupler isolation; Between isolation DVAC for 1 minute; OVDC 10MΩ or higher				
Conversion Speed Output Short Protection Offset/Gain Setting Coun Write Count) (*5) Insulation Method Dielectric Withstand Vol Insulation Resistance Number of Occupied I/O Connected Terminal Applicable Wire Size Applicable Solderless Te External Power Supply	ot (Flash Memory tage Points erminal	80µ/channe Protected Up to 1000 Between I/0 Between I/0 Between I/0 18-points (1 18-point te 0.3 to 0.75; R1.25-3 (so 24VDC +20	1 to 5V 1 to 10V 0 to 20mA 4 to 20mA Input Range 39. 0 to 10V 4210 to 10V 43. 0 to 5V 46. 1 to 5V 47. 1 to 5V (Extended mode) 49. 0 to 20mA 50. 4 to 20mA 51. 4 to 20 mA (Extended mode) el (*4) 00 counts 0 terminals and programmable ce external power supply and analous terminals and programmable ce external power supply and analous terminals and programmable ce external power supply and analous terminals and programmable ce external power supply and analous terminals and programmable ce external power supply and analous terminals and programmable ce external power supply and analous terminals and programmable control to the supply and analous terminals and prog	25 ±5° Within ±0.2% (±10mV) Within ±0.2% (±20mV) Within ±0.2% (±40μA) 35. Ambient Temperatur 36. 25±5° C 40. ±0.2% (±32 digit) 44. ± 0.2% (± 24 digit) ontroller power supply: phonoritoller power supply: 50 or 10 g I/O channels: transform ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 10 souvact for 1 minute ontroller power supply: 50 or 1 minute ontroller power	Within ±0.4% (±20mV) Within ±0.4% (±40mV) Within ±0.4% (±80μA) e 37. 0~55° C 41. ± 0.3% (±48 digit) 45. ± 0.3% (± 36 digit) otocoupler isolation; Between isolation DVAC for 1 minute; OVDC 10MΩ or higher				

- Notes:

 1. For details on the I/O conversion characteristic, refer to the I/O Conversion Characteristic of A/D Conversion in Users Manual.

 2. Maximum resolution in the user range setting.

 3. Except when receiving noise influence.

 4. For details on the conversion speed, refer to the enable/disable settings and conversion speed of A/D and D/A in the Users Manual.

 5. If the number of offset/gain settings exceeds 100000 times, an error (error code 170) occurs.

Multiple Input Module

Model Number		L60MD4-G							
Stocked Item		S							
Certification			ne -						
Number of Analog Inpu	t Dainte	UL • CUL • CE							
Number of Analog mpu	Voltage	4 points (4 channels)							
	Current	-10 to 10 VDC (input resistance 1MΩ)							
	Micro Voltage	0 to 20mADC (input resistance 250Ω)							
Analog Input	WILCIO VOILAGE	-100 to 100mVDC							
Allalog lilput	Thermocouple		Available type: 12 types K, J, T, E, N, R, S, B, U, L, PLII, W5Re/W26Re						
	Resistance	Cold junction compensation resistor: Use the included cold junction compensation resistor (CJ)							
	Temperature Detector	Available type: 4 types Pt1000, Pt100, JPt100, Pt50 Measurement method: 3-wire system							
	Tomporaturo Dotottor		rrent, micro voltage: -20480 to 2	20.470					
			temperature detector: Pt100 (-2		120°C)				
			s: -2000 to 12000	.0 10 120 0), 01 1100 (20 1	3 120 0)				
			nheit: 0 to 20000						
Digital Output	Value		ded off to two decimal places ×						
Digital Output			ple, Resistance temperature det	ector (other than the above	e)				
			s: -2700 to 23000						
			nheit: -4000 to 32000 ded off to one decimal place × 1	N timps					
	With Scaling Function	-32768 to 3		o times					
	with country runotion	02700100)E101						
		Analog In		Digital Output Value	Resolution				
			0 to 10V		500μV				
		Voltage	0 to 5V	0 to 20000	250μV				
			1 to 5V		200μV				
			-10 to 10V	-20000 to 20000	500μV				
I/O Characteristics, Resolution			1 to 5V (extended mode)	-5000 to 22500	200μV				
			0 to 20mA	0 to 20000	1000nA				
		Current	4 to 20mA		800nA				
			4 to 20mA (extended mode)	-5000 to 22500	800nA				
		Micro Voltage	-100 to 100mV	-20000 to 20000	5μV				
					<u> </u>				
		Thomsessure D. D. C. N. D. II. W.C.D. MOCDO. O 200 V. E. J. T. II. J. O 100							
		Thermocouple: B, R, S, N, PLII, W5Re/W26Re: 0.3°C K, E, J, T, U, L: 0.1°C							
		Resistance temperature detector: Pt100 (-20 to 120°C), JPt100 (-20 to 120°C): 0.03°C Pt100 (-200 to 850°C), JPt100 (-200 to 600°C), Pt1000, Pt50: 0.1°C							
	Voltage/Current/	Ambient temperature $25\pm5^{\circ}$ C: Maximum value of the measurement range × ($\pm0.3\%$) (±60 digits)							
	Micro Voltage	Ambient temperature 2.5±0 °C. Maximum value of the measurement range \times (±0.5%) (±00 digits) Ambient temperature 0 to 55°C: Maximum value of the measurement range \times (±0.9%) (±180 digits)							
	-	Ambient temperature 25±5°C: Full scale × (±0.15%)							
Accuracy	Thermocouple	Ambient temperature 0 to 55°C: Full scale × (±0.1979)							
·		Temperature measured value: -100°C or higher - within ±1.0°C							
	Cold Junction Compensation Resistor	Temperature measured value: -150°C to -100°C - within +2 0°C							
	Compensation nesistor	Temperature measured value: -200°C to -150°C - within ±3.0°C							
Conversion Speed		50ms/channel							
Output Current for Tem	perature Detection	Pt100, JPt100, Pt50: 1mA, Pt1000: 0.2mA							
Absolute Maximum Inp	ut	Voltage: ±15V, Current: 30mA							
Insulation Method			put terminals and programmable	e controller power supply:	Photocoupler				
		Between input channels: Transformer							
Dielectric Withstand V	oltage	Between input terminals and programmable controller power supply: 500VACrms for 1 minute							
		Between input channels: 500VACrms for 1 minute Between input terminals and programmable controller power supply: 500VDC 10MΩ or higher							
Insulation Resistance			put channels: 500VDC 10MΩ or		DOODO TOWN OF HIGHER				
Number of Occupied I/	n Points		/O assignment: Intelligent 16 po						
Disconnection Detection		Protected	, o acongriment. Intelligent 10 pt	,oj					
Connected Terminal			rminal block						
Applicable Wire Size		0.3 to 0.75							
Applicable Solderless	Terminal		olderless terminals with sleeve a	re not usable)					
Internal Current Consu		0.49A							
Weight (kg)		0.19							
Dimensions (W x H x D) mm	28.5 x 90 x	117						
(IF X II X D	,								

Temperature Input Module - RTD Input

Model		L60RD8						
Stocked Item		S						
Certification		UL • CUL • CE						
Number of Analog	n Innut Points	8 points (8 channels)						
	Temperature Measured Value	-3280 to 15620						
Output	Digital Operation	-32768 to 32767						
Applicable RTD		9 types Pt100 (JIS C 1604-2013), JPt100 (JIS C 1604-1981), Pt1000, Pt50 (JIS C 1604-1981), Ni100 (DIN 43760 1987), Ni120 (DIN						
		Celsius	Fahrenheit					
		-20 to 120°C	-4 to 248°F					
-	Pt100	-200 to 850°C	-328 to 1562°F					
		-20 to 120°C	-4 to 248°F					
	JPt100	-200 to 600°C	-328 to 1112°F					
Measured	Pt1000	-200 to 850°C	-328 to 1562°F					
Temperature Range	Pt50	-200 to 650°C	-328 to 1202°F					
nanye	Ni100	-60 to 250°C	-76 to 482°F					
Ni120	-60 to 250°C	-76 to 482°F						
	Ni500	-60 to 250°C	-76 to 482°F					
	Cu100	-180 to 200°C	-292 to 392°F					
Cu50		-180 to 200°C	-292 to 392°F					
Temperature Detecting Output Current (*1)		1mA	Pt100, JPt100, Pt50, Ni100, Ni120, Cu100, Cu50					
		100μΑ	Pt1000, Ni500					
Conversion	Ambient Temperature 25±5°C	Accuracy (Refer to manual SH(NA)-081530ENG, MELSEC L RTD Input Module User's Manual)						
Accuracy (*2)	Ambient Temperature 0 to 55°C	Measured temperature range accuracy at RTD input.						
Resolution (*3)		0.1°C						
Conversion Spee	d	40ms/channel						
Number of Senso Settings	r Two-Point Correction	10000 times maximum						
Insulation Metho	d	Between input terminals and programmable controller pov	ver supply: Photocoupler; Between input channels: Non-insulation					
Withstand Voltag	е	Between input terminals and programmable controller power supply: 500VACrms for 1 minute; Between input channels: Non-insulation						
Insulation Resist	ance	Between input terminals and programmable controller power supply: 500VDC 10MΩ or higher; Between input channels: Non-insulation						
Disconnection De	tection (*4)	Available						
Number of Occup	ied I/O Points	16 points (I/O assignment: Intelligent 16 points)						
External connecti	on System	24-point spring clamp terminal block						
Applicable Cable	Type (*5)	Solid wire, stranded wire, bar solderless terminal						
Annliaghla Wire	Pino (*6)	Core 0.5 to 1.5mm² (24 to 16 AWG)						
Applicable Wire	5126 ("0)	Terminal hole size 2.4mm x 1.5mm						
Applicable Solde	rless Terminal	Al 0.5-10WH [Applicable wire size: 0.5mm²]; Al 0.75-10GY [Applicable wire size: 0.75mm²]; A 1-10 [Applicable wire size: 1.0mm²]; A 1.5-10 [Applicable wire size: 1.5mm²]						
Wire Strip Length		10mm						
Internal Current (Consumption (5VDC)	0.22A						
Weight (kg)		0.15						
Dimensions (W x	H x D) mm	28.5 x 90 x 116.5						
1 Notes		from the second						

^{1.} Notes:
1. Current is output only on channels in which conversion is being performed.
2. Except when receiving noise influence.
3. When the standard product (L60MD4-G) is replaced by this module, the resolution of Pt100 (-20 to 120°C) and JPt100 (-20 to 120°C) is different.
4. Select the setting for the output at disconnection detection from "Value just before disconnection", "Upscale", "Downscale", and "Any value".
5. When a stranded wire is used, attach a bar solderless terminal.
6. The solderless terminal having an end length of 10mm that complies with DIN 46228-1 can be used.

Temperature Control Modules

Model Number	L60TCTT4 S UL • cUL • CE Transistor output 4 channels/module Thermocouple Full scale × (±0.3%) Full scale × (±0.7%) Within ±1.0°C	Resistive thermal device	S Thermocouple	S Resistive thermal device						
Control Output	UL • cUL • CE Transistor output 4 channels/module Thermocouple Full scale × (±0.3%) Full scale × (±0.7%)									
Control Output	Transistor output 4 channels/module Thermocouple Full scale × (±0.3%) Full scale × (±0.7%)	Resistive thermal device	Thermocouple	Resistive thermal device						
$\begin{tabular}{l l l l l l l l l l l l l l l l l l l $	4 channels/module Thermocouple Full scale × (±0.3%) Full scale × (±0.7%)	Resistive thermal device	Thermocouple	Resistive thermal device						
Type of Usable Temperature Sensors, the Temperature Measurement Range, the Resolution, and the Effect From Wiring Resistance of 1Ω Indication Accuracy Ambient Temperature: $25 \pm 5^{\circ}\text{C}$ Ambient Temperature: 0 to 55°C Temperature Process Value (PV): -100° C or More	Thermocouple Full scale × (±0.3%) Full scale × (±0.7%)	Resistive thermal device	Thermocouple	Resistive thermal device						
Indication Accuracy Ambient Temperature: 0 to 55°C Temperature Process Value (PV): -100° C or More	Full scale × (±0.7%)									
Cold Junction Accuracy Cold Junction Temperature Cold Junction Temperature More	,									
Accuracy Cold Junction Temperature Value (PV): -100° C or More	Within ±1.0°C		Full scale × (±0.7%)							
O-minanation Tomorous Business			Within ±1.0°C	-						
Compensation Temperature Process Accuracy: Value (PV): -150 to (Ambient -100°C	Within ±2.0°C	_	Within ±2.0°C							
Temperature: Temperature Process Value (PV): -200 to -150°C	Within ±3.0°C		Within ±3.0°C							
Sampling Cycle	250ms/4 channels, 500ms/4	4 channels								
Control Output Cycle	0.5 to 100.0s									
Input Impedance	1ΜΩ									
Input Filter	0 to 100s (0: Input filter OFF)									
Sensor Correction Value Setting	-50.00 to 50.00%									
Operation at Sensor Input Disconnection	Upscale processing									
Temperature Control Method	PID ON/OFF pulse or two-position control									
PID Constants Setting	Can be set by auto tuning									
PID Constants Range Proportional Band (P)	0.0 to 1000.0% (0: Two-position control)									
Integral Time (I)	0 to 3600s (set 0 for P control and PD control)									
Derivative Time (D)	0 to 3600s (set 0 for P control and PI control)									
Set Value (SV) Setting Range	Within the temperature range set in the thermocouple/platinum resistance thermometer to be used									
Dead Band Setting Range	0.1 to 10.0%									
Output Signal	ON/OFF pulse									
Rated Load Voltage	10 to 30VDC									
Max. Load Current	0.1A/point, 0.4A/common									
Transistor Output Max. Inrush Current	0.4A 10ms									
Leakage Current at OFF	0.1mA or less									
Max. Voltage Drop at ON	1.0VDC (TYP) at 0.1A 2.5VDC (MAX) at 0.1A									
Response Time	OFF-ON: 2ms or less, ON-OFF: 2ms or less									
Number of Accesses to Non-Volatile Memory	Max. 1012 times									
Heater Disconnection Detection Current Sensor			See L Series User's Manual							
Specifications Input Accuracy]-		Full scale × (±1.0%)							
Number of Alert Delay			3 to 255							
Number of Occupied I/O Points	16 points (I/O assignment:	16 intelligent points)								
Number of Occupied Module	1		2							
External Connection	18-point terminal block		Two 18-point terminal block	is						
Internal Current Consumption	0.30A	0.31A	0.33A	0.35A						
Weight (kg)	0.18		0.33							
Dimensions (W x H x D) mm	28.5 x 90 x 117		57.0 x 9 x 117							