

New I/O Modules with expanded I/O points

In order to reduce costs, multipoint Analog/Digital I/O are built into a single EX module.
They can be used for a variety of applications.



4-ch Voltage, Current, Pt100/Pt1000/Ni100/Ni1000 Input Module
EXM-AMI4LT

2-ch Analog Output Module
EXM-AVO2HT

4-ch Analog Input / 2-ch Analog Output Module
EXM-AMM6HT

8-ch Temperature Pt100/Pt1000 Input Module
EXM-ARI8LT

16-Point Inputs / 8-point Relay Output Module
EXM-DMM24DRF

LT-3300S
LT-3300L
LT-3301L
5.7-inch QVGA color
and monochrome
models

LT-3201A
3.5-inch QVGA amber
monochrome model



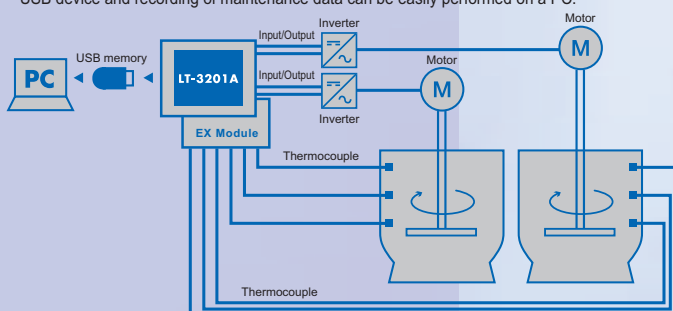
I/O expandable with
Graphic Logic Controller LT3000 Series

Application example **1** Mixing Machine



Up to 8 points for temperature monitoring & recording

By combining an LT-3201A with an 8 point Pt100/Pt1000 input module, up to 8 point temperature input, which monitors the temperature sensors in the Mixing Machine via the display, can be done. By using the LT-3201's control function, motor control can be performed based on temperature information. Saving temperature data and control information onto a USB device and recording of maintenance data can be easily performed on a PC.

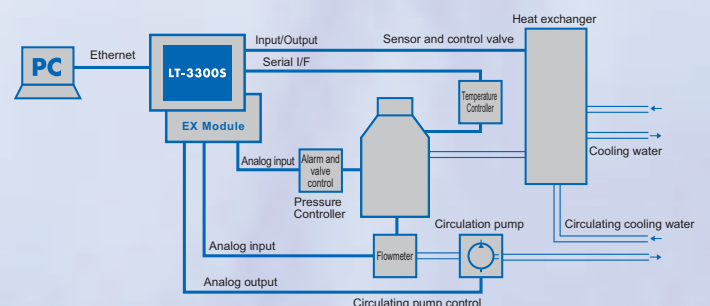


Application example **2** Chiller



Machine control and data management without PLC

By combining LT-3300S with 4 point analog input / 2 point analog output module, up to 4 analog inputs and 2 point analog outputs can be implemented. This also enables control of input level adjustment and flow meter monitoring with a single module. The LT-3300S is able to connect a temperature controller via the SIO port. Making automated reports through the Ethernet to PC reduces labor and time.



EX Module Specification

[EX Modules]

Product Name	Product Name	Description
4-ch Voltage, Current, Pt100 / Pt1000 / Ni100 / Ni1000 Input Module	EXM-AMI4LT	4-ch Analog Input / Temperature Input Expansion Unit
2-ch Analog Output Module	EXM-AVO2HT	2-ch Analog Output Expansion Unit
4-ch Analog Input / 2-ch Analog Output Module	EXM-AMM6HT	4-ch Analog Input / 2-ch Analog Output Expansion Unit
8-ch Temperature Pt100 / Pt1000 Input Module	EXM-ARI8LT	8-ch Temperature Input Expansion Unit
16-point Input / 8-point Relay Output Module	EXM-DMM24DRF	16-point Input Sink-Source / 8-Point Relay Output Expansion Unit

Supported with GP-Pro EX Ver.2.6 or later.
HTB unit is not supported.

[EX Modules Specifications]

Analog Module

	EXM-AMI4LT	EXM-AVO2HT	EXM-AMM6HT	EXM-ARI8LT
Channel	4 point	—	4 point	8 point
Input Range	DC0 to 10 V (Voltage Input), DC0 to 20 mA (Current Input), (RTD/Pt100/Pt1000/Ni100/Ni1000 (Temperature Probes))	—	DC0 to 10 V (Voltage Input), DC4 to 20 mA (Current Input)	Pt1000: -50 to +200C [-58 to +392F], Pt100: -200 to +600C [-328 to +1112F]
Digital Resolution	4096 increments (12 bits)	—	4096 increments (12 bits)	
Input Value of LSB	2.5 mV (Voltage Input), 4.8 μA (Current Input) K: 0.15C [K: 0.27F] (Temperature Probes)	—	2.5 mV (Voltage Input), 4.8 μA (Current Input)	Pt1000: 0.06C [0.108F], Pt100: 0.2C [0.36F]
Input Impedance	10 kΩ min. (Voltage Input), 250 Ω max. (Current Input) 10 kΩ min. (Temperature Probes)	—	1 MΩ (Voltage Input), 250 Ω max. (Current Input)	10 kΩ min.
Isolation Method	Photocoupler Isolation between input and internal circuit (1500 VDC isolation)	—	Photocoupler Isolation between input and internal circuit (1500 VDC isolation)	
Sample Repetition Time	160ms	—	64ms	320 ms per channel
Total Input System Transfer Time	4x160 ms + 1 scan time (Voltage Input, Current Input) 8x160 ms + 1 scan time (Temperature Probes)	—	4x64 ms + 1 scan time	4x320 ms + 1 scan time
Maximum Error	±0.5% of full scale	—	±1% of full scale	Pt1000: ±1C [±33.8F] Pt100: ±1C [33.8F] / 4C [24.8F]
Total maximum deviation	±0.5% of full scale	—	±1.5% of full scale	—
Channel	—	2 point	2 point	—
Output Range	—	From DC -10 to +10 V	From DC0 to 10 V (Voltage Output), From DC4 to 20 mA (Current Output)	—
Digital Resolution	—	11 bits + sign	4096 increments (12 bits)	—
Output Value of LSB	—	±9.8 mV	2.5 mV (Voltage Input), 4.8 μA (Current Output)	—
Load Impedance	—	3 kΩ min.	2 kΩ min. (Voltage Input), 300 Ω max. (Current Output)	—
Isolation Method	—	—	Photocoupler Isolation between outputs and internal circuit	
Total Output System Transfer Time	—	2 ms + 1 scan time	20 ms + 1 scan time	—
Total Error	—	±1% of full scale	±1.5% of full scale	—
External Connection	11-pin terminal connector	11-pin terminal connector	10-pin terminal connector	2 x 13-pin terminal connector 1 x 2-pin power supply screw terminal block
Power Consumption *	0.34W or less	0.40W or less	0.40W or less	0.60W or less
Weight	85g [0.19 lb]			

* DC5V supplied by LT3000 unit.

Input / Output Mixed Module

	EXM-DMM24DRF
Input Points	16 point (sink / source type-dual use)
Rated Input Voltage	DC24V
Rated Input Current	7mA/DC24V
Input Impedance	3.4kΩ
Isolation Method	Between input terminals and internal circuit: photocoupler isolated Between input terminals: not isolated
Input Delay Time	OFF-ON:4ms ON-OFF:4ms
Output Points	8-point relay(1a-contact)
No. of Output Common	2 common
Maximum Load	Per Channel 2A or less
Current	Per Common 7A or less
Min. Open/Close Load	0.1mA / DC0.1V
Electrical Life	100,000 operations or more (rated resistive load 1,800 operations/h)
Mechanical Life	20 million operations or more (no load 18,000 operations/h)
Output Delay Time	ON 6ms or less OFF 10ms or less
External Connection	Terminal Block (nonremoval)
Status LED	LED is lit when input is ON
Power Consumption *	1.52W or less
Weight	140g [0.31 lb]

[LT3000 Series Specifications]

LT3000 Series	Display		Built-in		Interface		
	Display Size	Display Type	DIO	Special I/O * Uses built-in DIO's four points.	USB (host)	SIO	Ethernet
LT3300-S1-D24-K LT3300-S1-D24-C	5.7"	STN 4,096 Colors	32 points Inputs: 16 Outputs: 16	Pulse Output Max. 65 kHz Counter Input Max. 100 kHz	USB1.1 x1	RS-232C / 422 / 485 x1	10BASE-T / 100BASE-TX x1
LT3300-L1-D24-K LT3300-L1-D24-C		Monochrome 16 Shades					
LT3301-L1-D24-K LT3301-L1-D24-C		Monochrome 8 Shades (Amber / Red)					
LT3201-A1-D24-K LT3201-A1-D24-C	3.8"	Monochrome 8 Shades (Amber / Red)	18 points Inputs: 12 Outputs: 6				

[EX Modules Connection Structure]

EX modules can be mounted to the back of a LT3000 unit.

LT-3201A



LT-3300S
LT-3300L
LT-3301L



Up to two EX modules can be connected to the back of a LT-3201A unit.

Up to three EX modules can be connected to the back of a LT-3300S/3300L/3301L unit.

As for 8-ch Temperature Pt100/Pt1000 Input Module (EXM-ARI8LT), and 16-Point Input / 8-point Relay Output Module (EXM-DMM24DRF), only one EX module can be connected to a LT unit.



EX Module x1



I/O wiring

Various I/O devices

⚠ Caution: Before operating any of these products, be sure to read all related manuals thoroughly.

● For printing purposes, the colors in this catalog may differ from those of the actual unit.

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