



# CONVERTERS AND TRANSDUCERS

## Protocol Converters

*Lynx+* Gateway

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## Interface Converters

USB to RS232 / RS485 / RS422 Converter

RS232 to RS485 / RS422 Converter

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## Signal Transducers

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# Lynx+ Gateway


- Serial protocol support for Modbus (RTU and ASCII) Master/Slave
- Network protocol support for Modbus TCP (Server/Client)
- Supports Raw Serial to Ethernet conversion with Telnet RFC2217
- Serial Interface support for RS232, RS422 and RS485 network
- Serial Baud rate: 300 bps to 115.2 Kbps
- Ethernet interface support: 10/100Mbps with Auto Negotiation
- Configurable using Embedded Web server and Application software
- Network Protocols: ARP, TCP/IP, HTTP, BOOTP, TFTP, ICMP, TELNET, DHCP, AutoIP, UPnP
- Isolation between Communication Ports & Input Power supply



## Ordering Information

Cat. No.	Description
25A11A0	12 - 24 VDC, Protocol Converter, Modbus TCP - Modbus RTU/ASCII
25B11A0	12 - 24 VDC, Serial to Ethernet Converter



Cat. No.		25A11A0	25B11A0	
Parameters				
Supply Voltage (≡)		12 - 24 VDC		
Supply Variation		-10% to +25%		
Power Consumption (Max.)		2 W		
Protocol Conversion		Modbus RTU / ASCII to Modbus TCP	N.A	
Operation Mode		Modbus RTU / ASCII (Master / Slave), Modbus TCP (Server / Client)	Raw, Telnet	
Configuration Management		HTTP Web Server and Application software		
Serial Interface	Number of Serial Ports	1	2	
	Serial Interface	Port1: Screw terminals for RS232, RS422 and RS485 interface	Port1: Screw terminals for RS232, RS422 and RS485 interface, Port2: RJ11 for RS232 Interface	
	Signals	RS232 : RXD, TXD, GND RS422 :TX+, TX-, RX+, RX-, GND RS485 : TX+ (D+), TX- (D-), GND		
	Serial Interface Selection	For Port1: Mode selection using RST switch with Mode LED indication		
	Serial Communication Parameters	Baud Rate : 300bps to 115.2Kbps		
		Data Bits : 7,8 ; Flow Control : None		
		Parity : Odd, Even, None		
	Stop Bits : 1,2			
Fail safe resistor	4K7 Resistor Pull up ( TX+ ) & Pull Down (TX-) on BUS			
Terminating Resistor	Connect externally if required			
Isolation	Isolation 2 KVRms			
LAN Interface	Port	RJ45, Ethernet 10/100 Mbps		
	LAN Isolation	1.5KVrms magnetic Isolation		
	Network Protocol's Supported	Protocols for Communication : TCP/IP, Modbus	Protocols for Communication : Raw, Telnet-RFC2217	
		Standard Protocols used : HTTP, DHCP, AutoIP, UPnP, TCP, UDP, IP, ARP, ICMP,	Standard Protocols used : HTTP, DHCP, AUTOIP, UPnP, TCP, UDP, IP, ARP, ICMP,	
		Protocols used for firmware updating : BOOTP, TFTP	Protocols used for firmware updating : BOOTP, TFTP	
Isolation	1.5KVrms magnetic Isolation			
Feature		Mapping and Background Processing Data Block (BPD)	N.A	
Configuration Software		Windows Based Software to Configure Ports as well as Selection of Protocol Driver		
Reset		Front Panel recessed , Loads Default Factory Settings & Serial Mode selection		
LED Indications		Serial TX and RX, LAN: LINK and Activity, Power ON, Error, Mode Selection Indication LED		
Operating Temperature		0°C to + 55°C		
Enclosure		Flame Retardant UL94-V0		
Dimension (W x H x D) (in mm)		72 X 90 X 58		
Weight (unpacked)		185 g		
Mounting		Base / DIN Rail		
Certification		 RoHS Compliant		

## EMI / EMC

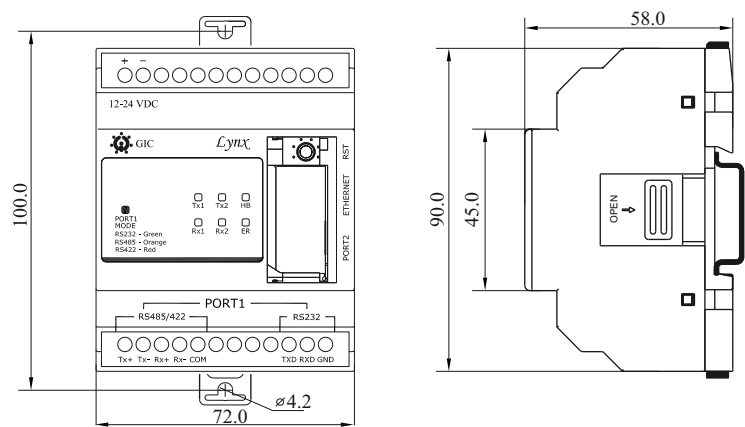
ESD	IEC 61000-4-2
EFT (On Supply Lines)	IEC 61000-4-4
EFT (On Communication Line)	Port1: IEC 61000-4-4
Radiated Susceptibility	IEC 61000-4-3
Surges (DC Power Ports)	IEC 61000-4-5
Conducted Susceptibility	IEC 61000-4-6
Voltage Dips & Interruptions (DC)	IEC 61000-4-29
Conducted Emission	CISPR 11
Radiated Emission	CISPR 11
Power Frequency Magnetic Field Immunity	IEC 61000-4-8

## Environmental Compliance

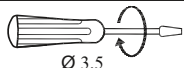

Cold Heat	IEC 60068-2-1
Dry Heat	IEC 60068-2-2
Vibration	IEC 60068-2-6
Repetitive Shock	IEC 60068-2-27
Non-Repetitive Shock	IEC 60068-2-27



MOUNTING DIMENSIONS (mm)



TERMINAL TORQUE & CAPACITY

 Ø 3.5	0.54 N.m (6 Lb.in)
	1 x 2.5 mm <sup>2</sup> Solid Wire/Stranded
AWG	1 x 24 to 12

# USB to RS232 / RS485 / RS422 Converter

- Compatible with USB 2.0
- Input : USB 2.0 Protocol
- Output : RS232 on DB9 Male connector compatible to PC RS485/RS422 on terminal block.
- Communication Speed : 300bps to 230Kbps.
- Auto direction control for RS485-2W data transmission.
- Cable: USB 2.0 type A to type B cable.
- Galvanic Isolation of 1.5kV
- RS232/RS485 line protection: +/- 15kV ESD.
- LED Indication for Transmit Receive signals.
- Input power from USB port, no external power required.
- 2M enclosure with DIN Rail mounting.
- Virtual COM port USB Drivers provided for Windows 7, 8, 8.1 and 10





## Ordering Information

Cat. No.	Description
28A11A0	USB to RS232 / RS485 / RS422 Converter
28G11A0	USB to RS485 Converter
28D33B0	Accessory for Converter 28A11A0, USB 2.0 Cable, Type A Male to B Male
28NNN10	Accessory for Converter 28A11A0, Software CD for Windows 8, 8.1 and 10

# USB to RS232 / RS485 / RS422 Converter



<b>Cat. No.</b>	<b>28A11A0</b>
<b>Parameters</b>	
USB	
Version	USB Specification 2.0 compliant
Speed	12 Mbps
Isolated Serial Interface	
RS232	TX, RX, GND
RS485	D+, D-, GND
RS422	TX+, TX-, RX+, GND
Auto direction control for RS485-2W	
Serial line Protection	Internal 15kV ESD protection
Isolation	1500 V Galvanic Isolation
Connector	RS232 - D Type 9 Pin Male Compatible with PC, RS485, RS422- Screw Terminals
LED Indication	TX, RX, Communication Mode Indication.
Power Requirements	USB BUS Powered
Operating Temperature	0° C To + 60° C
Storage Temperature	-20° C To + 70° C
Humidity	5% (Rh) to 95% (Rh)
Enclosure	Flame Retardant UL 94-V0
Dimension (W x H x D) (in mm)	36 X 90 X 52.3
Weight (unpacked) Approx.	100 g
Mounting	Base / DIN rail
Degree of Protection	IP 20 for Terminals, IP 40 for Enclosure
Certification	  Compliant
Function and Application	This converter allows serial devices on RS232/RS485/RS422 to systems using USB interface. It has galvanic isolation of 1500V between USB and Serial ports. It drives power from USB connector and does not need any power adapter.

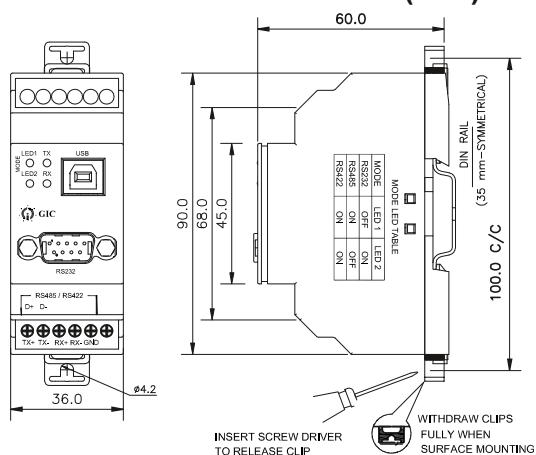
## EMI / EMC

ESD	IEC 61000-4-2
Radiated Susceptibility	IEC 61000-4-3
Electrical Fast Transients	IEC 61000-4-4
Surges	IEC 61000-4-5
Conducted Susceptibility	IEC 61000-4-6
Conducted Emission	CISPR 14-1
Radiated Emission	CISPR 14-1

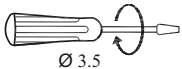

## Environmental

Cold Heat	IEC 60068-2-1
Dry Heat	IEC 60068-2-2
Vibration	IEC 60068-2-6
Repetitive Shock	IEC 60068-2-27
Non-Repetitive Shock	IEC 60068-2-27

## MOUNTING DIMENSIONS (mm)



## TERMINAL TORQUE & CAPACITY

	0.54 N.m (6 Lb.in)
	1 x 2.5 mm <sup>2</sup> Solid Wire/Stranded
AWG	1 x 24 to 12

# RS232 to RS485 / RS422 Converter

- Isolated RS485/RS422 on terminal block.
- RS232 with DB9 Female connector
- Auto direction control for RS485-2W transmission.
- Galvanic Isolation of 1500V for RS485/RS422.
- Supports Baud rate up to 230Kbps.
- Internal 1.5 kV ESD protection both RS232 and RS485/RS422.
- LED Indication for Transmit, Receive signal communication traffic.
- Input power supply range 9 to 26.4 VDC
- 2M enclosure with DIN Rail mounting.





## Ordering Information

Cat. No.	Description
28B21A0	RS 232 to RS485/RS422 Converter
28E34B0	Accessory for Converter 28B21A0, Cable, DB9 Female to DB9 Male

# RS232 to RS485 / RS422 Converter



<b>Cat. No.</b>	<b>28B21A0</b>
<b>Parameters</b>	
<b>RS232 Port</b>	
Connector	D type 9 pin Female
Serial line protection	Internal 15 kV ESD
<b>Isolated RS485/RS422 Port</b>	
No. of Ports	1
RS422	TX+, TX-, RX+, RX
RS485	D+, D-
Serial line Protection	15kV ESD
<b>Serial Communication Parameter</b>	
Isolation	1500 V Galvanic
Parity	None, Even, Odd, Space, Mark
Data Bits	5,6,7,8
Stop Bits	1,1.5,2
Flow Control	None, XON/XOFF,
Speed	300 bps to 230 Kbps
LED Indication	TX, RX LED indication
Input Supply Voltage	9.4 - 26.4 VDC
Power Consumption	1W
Operating Temperature	0° C to + 60° C
Storage Temperature	-25° C to + 70° C
Humidity	95% (Rh)
Enclosure	Flame Retardant UL 94-V0
Dimension (W x H x D) (in mm)	36 X 90 X 52.3
Weight (unpacked) Approx.	100 g
Mounting	Base / DIN rail
Degree of Protection	IP 20 for Terminals, IP 40 for Enclosure
Certification	  RoHS Compliant
Function and Application	This converter allows to interface any device using RS232 serial link to RS485/RS422 link. The RS485 specification allows to network up to 32 Nodes on the same lines, at speeds up to 10 Mbps to distances of 4,000 feet (1200 meters). RS485/RS422 links are much used in industrial process control where reliability is important.

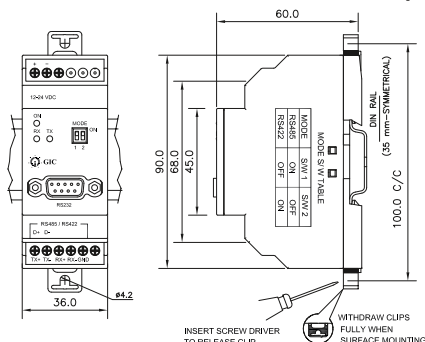
## EMI / EMC

ESD	IEC 61000-4-2
Radiated Susceptibility	IEC 61000-4-3
Electrical Fast Transients	IEC 61000-4-4
Surges	IEC 61000-4-5
Conducted Susceptibility	IEC 61000-4-6
Voltage Dips & Interruptions (DC)	IEC 61000-4-29
Conducted Emission	CISPR 14-1
Radiated Emission	CISPR 14-1

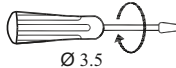

## Environmental

Cold Heat	IEC 60068-2-1
Dry Heat	IEC 60068-2-2
Vibration	IEC 60068-2-6
Repetitive Shock	IEC 60068-2-27
Non-Repetitive Shock	IEC 60068-2-27

## MOUNTING DIMENSIONS (mm)



## TERMINAL TORQUE & CAPACITY

 Ø 3.5	0.54 N.m (6 Lb.in)
	1 x 2.5 mm <sup>2</sup> Solid Wire/Stranded
AWG	1 x 24 to 12

# Signal Transducer

- Input / Output configuration selected via DIP switch combinations
- Choice of multiple analog input-output configurations
- Provides 3-way galvanic isolation of 3.75kV
- Fast output Response Time (<100ms)
- Sleek 22.5mm wide





## Ordering Information

Cat. No.	Description
2SC3D11CC3	Signal Transducer, 24 VDC, 1 Input & 1 Output, Voltage & Current, 3 Port Isolation, Base / DIN, Input Signal: 0-10 VDC, 2-10 VDC, 0-20 mA, 4-20 mA
2SC3D11DC3	Signal Transducer, 24 VDC, 1 Input & 1 Output, Voltage & Current, 3 Port Isolation, Base / DIN, Input Signal: 0-5 VDC, 1-5 VDC, 0-20 mA, 4-20 mA
2SC3D11EC3	Signal Transducer, 24 VDC, 1 Input & 1 Output, Voltage & Current, 3 Port Isolation, Base / DIN, Input Signal: 0-10 VDC, 2-10 VDC, 0-10 mA, 2-10 mA

# Signal Transducer



Cat. No.	2SC3D11CC3		2SC3D11DC3	2SC3D11EC3
Parameters				
Supply Voltage (⌚)	24 V DC			
Supply Variation	-15% to +15% (of ⌚)			
Power Consumption (Max.)	4 VA			
Device Characteristics				
Input Signal	0-10V DC 2-10V DC 0-20mA DC 4-20mA DC	0-5 V DC 1-5 V DC 0-20mA DC 4-20mA DC	0-10V DC 2-10V DC 0-10mA DC 2-10mA DC	
Input Impedance	Voltage I/P - 100K Ohm approx. Current I/P - 100 Ohm approx.		Voltage I/P - 100K Ohm approx. Current I/P - 200 Ohm approx.	
Output Signal	0-10VDC, 2-10VDC (min. 1 kOhm load) 0-20mA DC,4-20mA DC (max. 500 Ohm load)			
Accuracy	1% of full Scale			
Offset	± 5% of full scale Adjustable			
Gain	± 10% of full scale Adjustable			
Linearity	<0.02% of full scale			
Protections				
Input supply reverse polarity	Yes			
Input signal reverse polarity	Yes			
Output short circuit current	<25mA (Output Voltage mode)			
Output open circuit voltage	(12-14)VDC (Output Current mode)			
LED Indication	GREEN LED: Power ON			
Operating Temperature	-10°C to +55°C			
Storage Temperature	-15°C to +60°C			
Humidity (Non Condensing)	95% (Rh)			
Enclosure	Flame Retardant UL94-V0			
Dimension (W x H x D) (in mm)	22.5 X 83 X 100.5			
Weight (unpacked)	130 g			
Mounting	Din Rail Mounting			
Certification	 			
Degree of Protection	IP 20 for Terminals, IP 40 for Enclosure			

## EMI / EMC

ESD	IEC 61000-4-2
Radiated Susceptibility	IEC 61000-4-3
Electrical Fast Transients on Supply	IEC 61000-4-4
Electrical Fast Transients on I/O Signal	IEC 61000-4-4
Surge on Supply	IEC 61000-4-5
Surge on I/O Signal	IEC 61000-4-5
Conducted Susceptibility	IEC 61000-4-6
Voltage Dips & Interruptions (DC)	IEC 61000-4-29
Conducted Emission	CISPR 14-1
Radiated Emission	CISPR 14-1

## Environmental

Cold Heat	IEC 60068-2-1
Dry Heat	IEC 60068-2-2
Vibration	IEC 60068-2-6
Repetitive Shock	IEC 60068-2-27
Non-Repetitive Shock	IEC 60068-2-27

# Signal Transducer



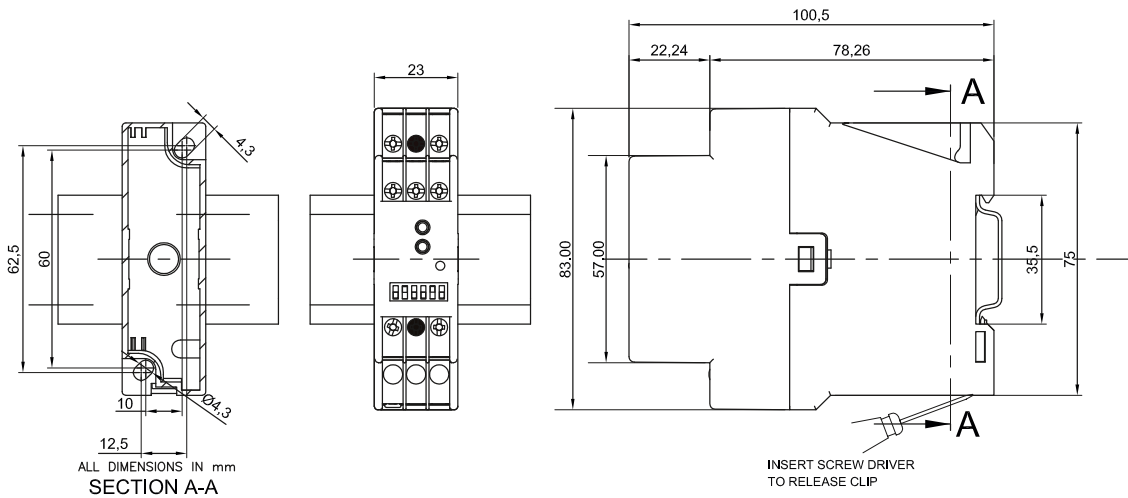
## DIP SWITCH MODE SELECTION

### SIGNAL TRANSDUCER-SERIES 225 SELECTION OF INPUT & OUTPUT SIGNAL MODE

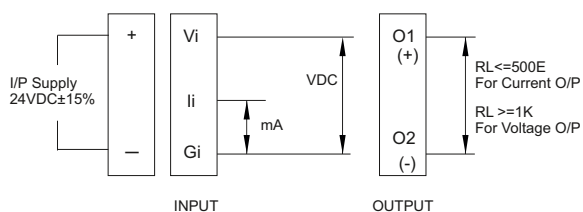
Mode	Input Voltage / Input Current			Output Signal
	2SC3D11CC3	2SC3D11DC3	2SC3D11EC3	
	(0-10)V / (0-20)mA	(0-5)V / (0-20)mA	(0-10)V / (0-10)mA	(0-10)V
	(0-10)V / (0-20)mA	(0-5)V / (0-20)mA	(0-10)V / (0-10)mA	(0-20)mA
	(0-10)V / (0-20)mA	(0-5)V / (0-20)mA	(0-10)V / (0-10)mA	(2-10)V
	(0-10)V / (0-20)mA	(0-5)V / (0-20)mA	(0-10)V / (0-10)mA	(4-20)mA
	(2-10)V / (4-20)mA	(1-5)V / (4-20)mA	(2-10)V / (2-10)mA	(0-10)V
	(2-10)V / (4-20)mA	(1-5)V / (4-20)mA	(2-10)V / (2-10)mA	(0-20)mA
	(2-10)V / (4-20)mA	(1-5)V / (4-20)mA	(2-10)V / (2-10)mA	(2-10)V
	(2-10)V / (4-20)mA	(1-5)V / (4-20)mA	(2-10)V / (2-10)mA	(4-20)mA

1 2 3 4 5 6

## MOUNTING DIMENSIONS (mm)

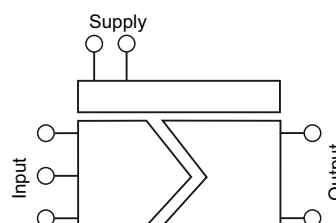


## CONNECTION DIAGRAM



## 3 PORT ISOLATION DIAGRAM

3,75kV AC (input, supply and output)



## TERMINAL TORQUE & CAPACITY

	0.60 N.m (5.3 Lb.in)
	1 x 4.0 mm <sup>2</sup> Solid/Stranded Wire
AWG	1 x 20 to 10

