Programmable Industrial Protocol Converter features :

- DIN Rail or Panel Mounted compact Protocol Converter

- Hardware with two communication ports. COM1: RS232 / RS422 / 2 or 4 wire RS485 / CMOS
  COM2: Profibus -DP-V0 Slave (2 wire RS485)

- Connects PLC / Drive on Profibus Network

- Allows data sharing between PLC, Inverters, Controllers and other network devices

- Common model for connecting different devices. Several PLC and Inverters can be supported

- Low power consumption of only 2.5 Watts

- Common Programming software for the entire Gateway family.........FREE!!
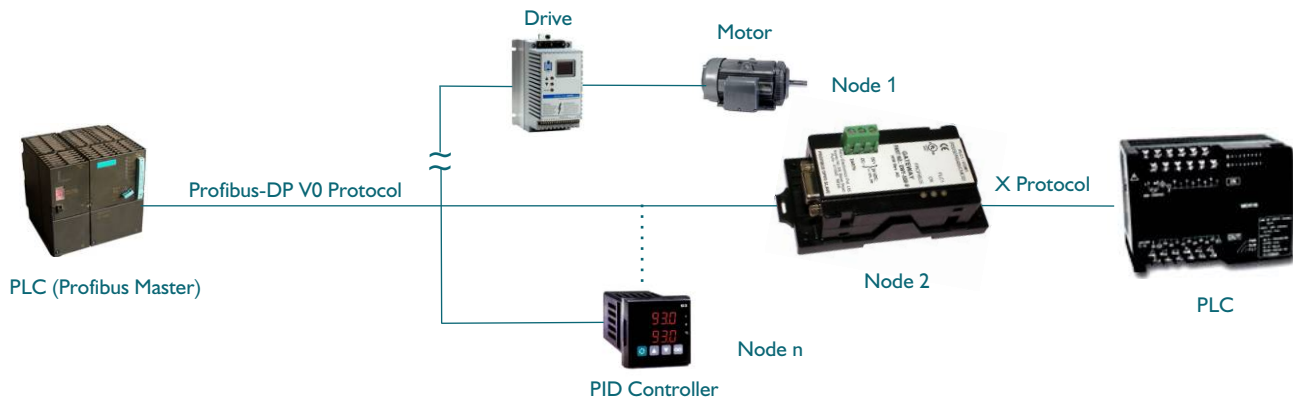
- CE, UL certification

Possible Applications :

GWY-500 connects one field device over serial link to another field device over a Profibus network. The user can define the blocks of registers to be fetched from one device and to be transferred to the other. Our users have used Gateway units in different applications across many industries. The typical configuration includes the following:
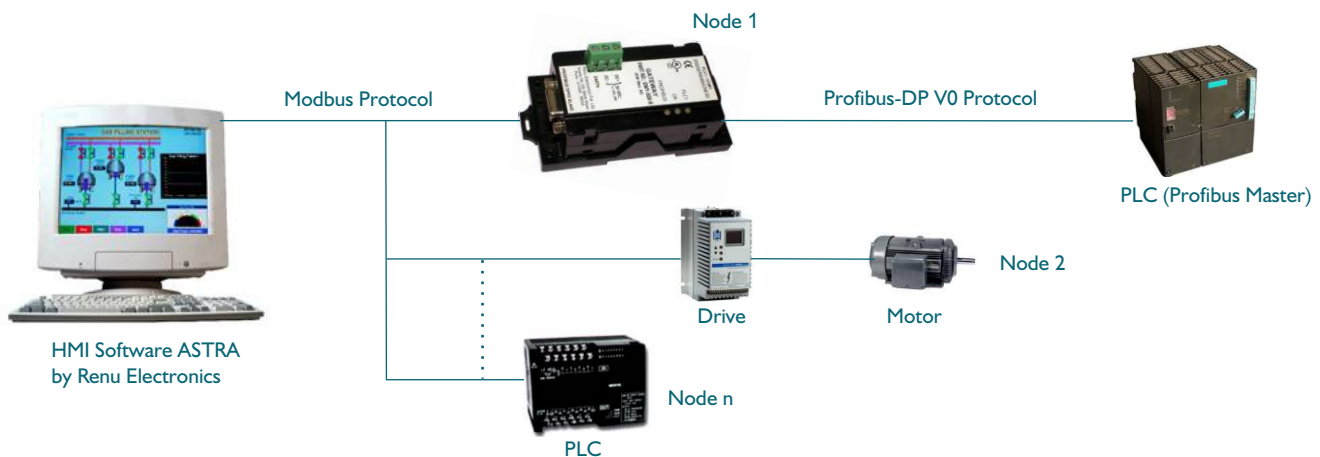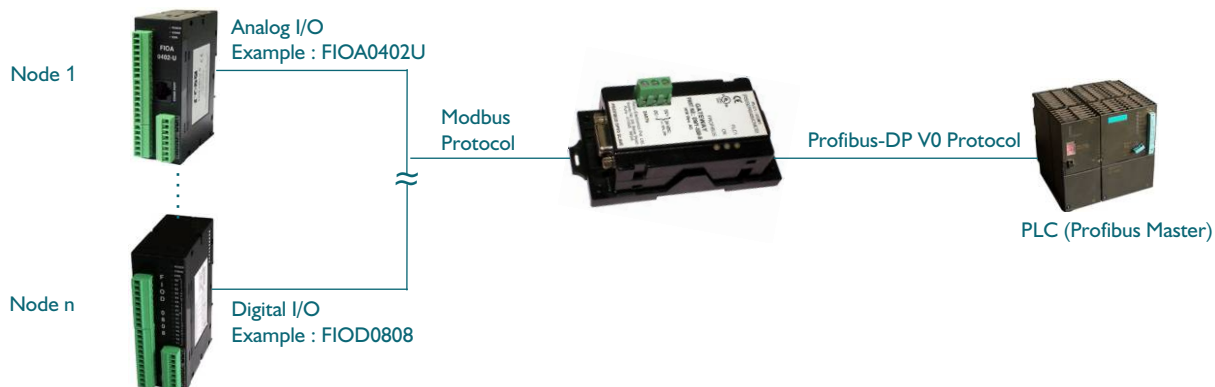
1. PLC to PLC Communication

PLC 1 — X Protocol — [Gateway] — Profibus-DP V0 Protocol — PLC 2

Profibus Master

2. PLC as slave in Profibus network

Drive
Motor
Node 1
PLC (Profibus Master) — Profibus-DP V0 Protocol
Node 2 — X Protocol — PLC
PID Controller
Node n

3. PLC (Profibus Master) as slave in Modbus network

Node 1
Modbus Protocol — Profibus-DP V0 Protocol — PLC (Profibus Master)
HMI Software ASTRA by Renu Electronics
Drive
Motor
Node 2
Node n
PLC

4. Add I/O to your PLC

Node 1
Analog I/O
Example : FIOA0402U
Modbus Protocol — Profibus-DP V0 Protocol — PLC (Profibus Master)
Node n
Digital I/O
Example : FIOD0808

* Images not to Scale.

GWY-500 Operations :

GWY-500 is a Protocol Converter / Data sharer for devices like PLCs, Inverters, Controllers etc. GWY-500 has a serial port, that connects to a serial device and a Profibus-DP-V0 port, that connects to Profibus network. Gateway allows serial devices to act as a slave on a Profibus network. It also allows Profibus Master PLCs to act as a serial device (e.g. Modbus Master or Modbus Salve).

Our Windows® based Gateway setup software makes it easy to configure the protocol converter. After choosing which protocol to be used for each port, you can program the Gateway to transfer the data blocks. Using a simple spreadsheet format, you can simply program the Gateway to fetch a specified number of registers or bits from one device and transfer them to the other. Powerful software allows you to have all the information transfers done continuously or allows the PLC to control which blocks of data are to be transferred.

System requirements for Gateway Setup Software are:
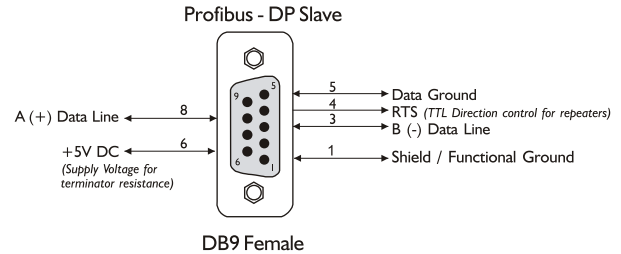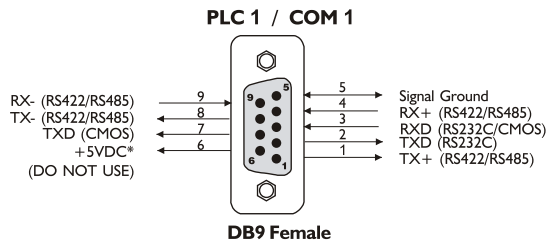Programming software is common for the entire Gateway family.

Windows Version	:	Microsoft Windows XP / 2000, Windows 7 / VISTA
Processor	:	PENTIUM or higher
Hard disk Space	:	5 MB or more
RAM	:	64 MB or more
Display resolution	:	800 X 600 (VGA) or better
Display colors	:	16 bit color

Other Accessories required for the GWY-500 configuration and to use in actual application:
1. Gateway Configuration / Connecting Cable.**
2. Gateway Setup Software .
3. Devices with communication cables.

Communication Ports :

The GWY-500 has two communication ports. The Pin-outs of these ports are as shown below:

PLC 1 / COM 1

RX- (RS422/RS485) — 9
TX- (RS422/RS485) — 8
TXD (CMOS) — 7
+5VDC* — 6
(DO NOT USE)

5 — Signal Ground
4 — RX+ (RS422/RS485)
3 — RXD (RS232C/CMOS)
2 — TXD (RS232C)
1 — TX+ (RS422/RS485)

DB9 Female

Profibus - DP Slave

A (+) Data Line — 8
+5V DC — 6
(Supply Voltage for terminator resistance)

5 — Data Ground
4 — RTS *(TTL Direction control for repeaters)*
3 — B (-) Data Line
1 — Shield / Functional Ground

DB9 Female

Do not use pin no. 6 of PLC1 / COM1.

**Refer our website (www.renuelectronics.com) for your specific Cable requirements

Data Line: The Profibus user group recommends the following colour coding for the data signal lines:
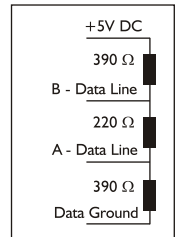**A-Data Line = Green   B-Data Line = Red**
These data signal lines must be connected to the corresponding signal terminals or pins at the master unit and other stations (i.e. A to A, B to B).

RTS: The signal RTS (TTL signal relative to Data Ground) is meant for the direction control of repeaters in case repeaters without self control capability are used.

+5V DC, Data Ground: The signals +5V DC and Data Ground are meant to power an externally mounted bus terminator.

The powering of the 220   termination resistor ensures a defined idle state potential on the data lines. To ensure proper functioning up to the highest baud rate, each bus segment has to be terminated at both ends of the cable.

+5V DC
390 Ω
B - Data Line
220 Ω
A - Data Line
390 Ω
Data Ground

Protocols supported for :

The GWY-500 supports Profibus DP V0 on Profibus port.

It currently support following devices on COM1 Port :

- Modbus RTU (Master)
- Generic ASCII Driver
- Toshiba ASD
- Omron Host Link
- Yaskawa Drives
- Xtra Drive PLCs on COM1 side.
- Siemens-S7-200 PPI

- Modbus RTU (Slave)
- Toshiba T1, T2, T3 (Link Port)
- AB DF1 Full Duplex (Micrologix /SLC5/0x / PLC5/30)
- IDEC Micro / C, IDEC MicroSmart, IDEC Open Net
- Telemecanique 17, 47 & 67 Series
- GE Fanuc Series 90-30, VersaMax

New PLC drivers are constantly added. Please contact factory for more information. We welcome an opportunity to develop new, custom drivers and customization of Gateway products.
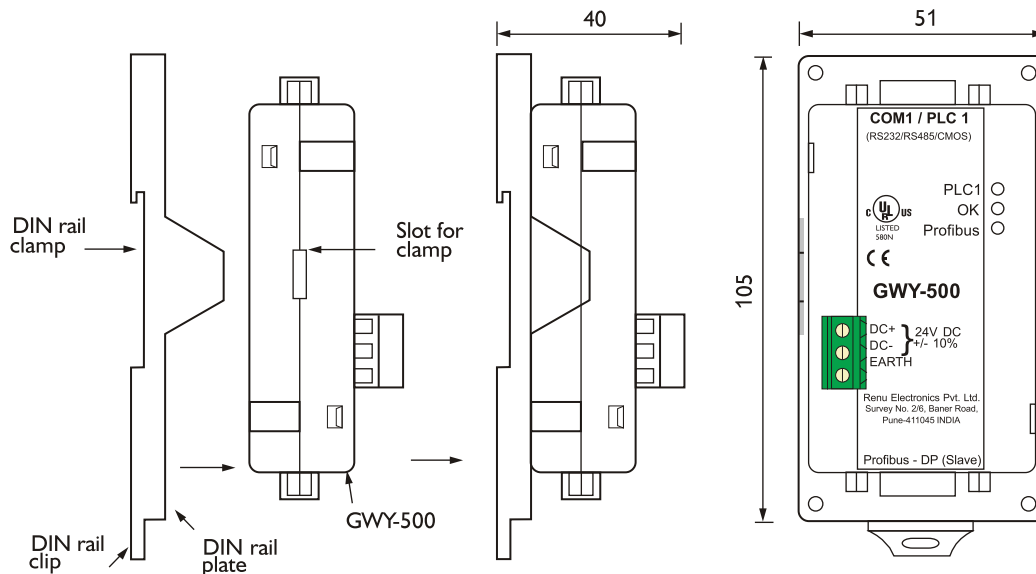
Specifications :

Power	:	+24V DC + 10%, 100mA max
LED's	:	3 LED's for status indication
Communication Ports	:	2 Communication ports with
COM1 (DB9 Female)	:	RS232 / RS422 / RS485 / CMOS
COM2 (DB9 Female)	:	Profibus - DP-V0 Slave (2 wire RS485)
Profibus Baud rate (Autodetect)	:	9.6k, 19.2k, 45.45k, 93.75k, 187.5 k, 500k, 1.5M, 3M, 6M, 12M bit/s
GSD File	:	Supplied with the unit (Isolation between communication ports and Power supply, through DC-DC coupler is 1 KV)
COM1 / PLC1	:	Connects to PC for setup download or connects to PLC1 at runtime.
COM2 / PLC2	:	Connects to Profibus - DP-V0 Network. (Isolation between communication ports, through opto-isolation is 1KV for 1 min)
I/O data	:	100 Word Input, 100 Word Output
BUS Address	:	0 - 255 Setting through setup software
Temperature	:	Operating : 0° to 60°C
		Storage : -20° to 80°C
Humidity	:	10% to 90% (Non condensing)
Mounting	:	DIN rail or back panel mounting
Weight	:	125 gm approx.
Certifications	:	CE and UL
Immunity to ESD	:	as per IEC61000-4-2
Immunity to Fast Transients	:	as per IEC61000-4-4
Immunity to Radiated electromagnetic field	:	as per IEC61000-4-3
Immunity to Conducted disturbances	:	as per IEC61000-4-6
Surge	:	as per IEC61000-4-5
Radiated emission	:	as per EN61000-6-4

Models :

Series/Model	Technology	Protocol
GWY-00	Serial	Various
GWY-100	LonWorks	LonTalk
GWY-300	CANBUS	CAN (J1939/CANopen)
GWY-500	Profibus	Profibus-DP-V0
GWY-610	Ethernet	Modbus TCP/IP
GWY-800	HART	HART
GWY-900	GSM	Various

Dimensions :

GWY-500 units are shipped with a separate DIN rail plate which can be attached to the unit, if desired. User can use the unit with or without the DIN rail plate. Following sketch shows dimensional details of GWY-500 with the DIN rail plate.

All dimensions are in mm.

RENU

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An ISO 9001 : 2008 and ISO 14001 : 2004 certified company

(Specifications subject to change without prior notice. DS-GWY-500: Rev.1M)