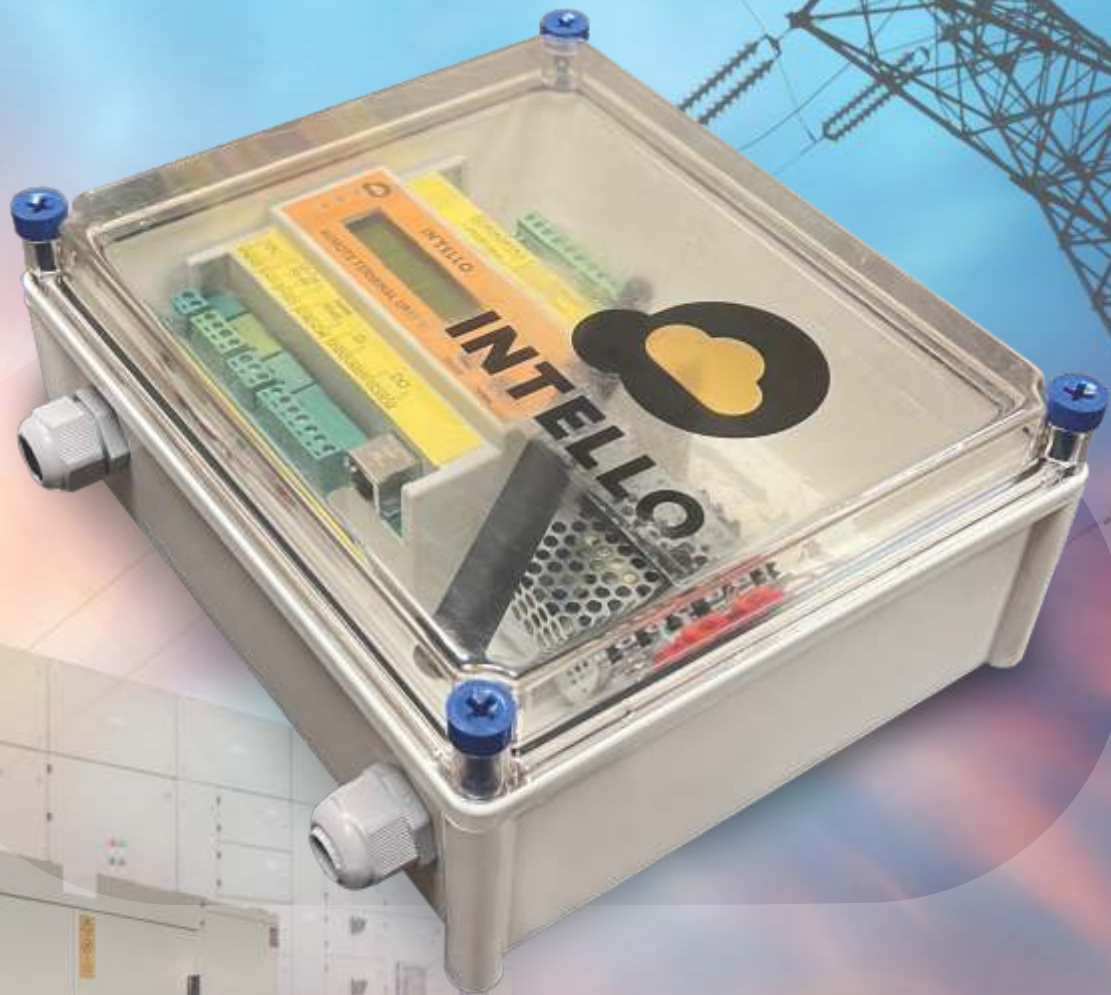


# REMOTE TERMINAL UNIT

(DG SYNC./ZERO EXPORT DEVICE)



A GSM and Microcontroller based device to monitor performance, status and faults of remotely installed equipment, thus enabling round the clock access to your assets from anywhere.

Equipped with rich features like industry standard based universal compatibility, ease of installation, wireless firmware upgrades and remote configuration capabilities.

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Category	Sub Category	Details
System	CPU	ARM Cortex 32 Bit Microcontroller @ 48MHz
	Data Memory	16,000 Logs (varies with device and data)
	Watch Dog Timer	Yes
	RTC	Inbuilt RTC – Updatable via GSM Network itself , from Server via GPRS
GSM	Frequency Band	4G LTE 3G UMTS/HSPA+ 2G GSM/GPRS/EDGE
Communication Ports	Ethernet	<ul style="list-style-type: none"> <li>• 10BASE-T UTP</li> <li>• Runs Modbus RTU over TCP/UDP for communication with Slave devices like inverters</li> <li>• Upto 31 devices can be connected to this port using a network switch</li> <li>• Ethernet port can be connected to LAN as well for internet connectivity with server</li> </ul>
	RS-485-Slave	<ul style="list-style-type: none"> <li>• Runs Modbus RTU Protocol for communication with Slave devices like Inverters</li> <li>• Electrically Isolated for extra protection</li> <li>• Upto 31 devices can be connected in a daisy chain fashion provided each device has different device ID</li> <li>• Supported baud rate from 2400 - 115200 bps</li> </ul>
	RS-485-Master	<ul style="list-style-type: none"> <li>• Additional AUX RS-485 interface (non-isolated) provided to act a MODBUS slave</li> <li>• Supported baud rate from 2400 - 115200 bps</li> <li>• Can be used for RTU monitoring and control using HMI or Host Computer</li> </ul>
Sensor Ports	6 Channel Analog/Digital	<p>RTU comprises of 6 ports which can be used for taking inputs from various types of sensors. Type of sensor interface needs to be specified at the time of ordering. Following interfaces can be selected on each port:</p> <ul style="list-style-type: none"> <li>• 4-20 mA (Loop Powered or self powered)</li> <li>• 0-10 V DC.</li> <li>• PT-100</li> </ul> <p>Some of the sensors that can be connected to these ports are:</p> <ul style="list-style-type: none"> <li>• Wind Speed/Direction.</li> <li>• Temperature</li> <li>• Solar Radiation.</li> <li>• Relative Humidity</li> </ul>
Digital Ports	2 Digital Output	<ul style="list-style-type: none"> <li>• Open Collector type Digital Output</li> <li>• Opto based Digital output</li> <li>• Can be used to trigger external relays based on logic</li> <li>• With LED indication</li> </ul>
	2 Digital Input	<ul style="list-style-type: none"> <li>• Opto based digital inputs</li> <li>• Can be used for some logic implementation</li> <li>• LED indication</li> </ul>
User Interface	16x2 LCD	16x2 Character LCD for various parameter details like signal strength, Log Frequency etc
	4 Keys	Provided to navigate through menu in 16x2 LCD
Input Power	Operating Voltage	24 V DC @1Amp
Mechanical	Casing Dimensions	Plastic Casing IP65 170mm x 125mm x 66mm (W x L x H)
	Mounting	Wall Mount
Operating Limits (Environmental)	Temperature	-25° C +55° C
	Relative Humidity	5 ~ 95% RH Non Condensing

## Working Brief

### Slave Device Communication

Slave devices like Inverter will be connected to the RTU via RS-485-Master as well as Ethernet. RTU will act as Master and poll data from devices for which the RTU is configured. Each slave device can have multiple and different query strings.

Captured data will be stored with time stamp and sent to the server at desired frequency via either GSM/GPRS or LAN.

### Configuration

RTU can be configured using RS-485-Slave Port and also over the GPRS network through server. Basic configurations like Server IP and Port can also be configured via SMS.

### Firmware Updates

No need to change device or have someone being physically present for any software/firmware upgrades. RTU is fully capable to get firmware and configuration updates remotely via GPRS or LAN.

Terminal Block	Name	Description
1	VIN	+12V DC Input
2	GD	-12V DC Input
3	V+	+12V DC Output
4	A1-	Master RS-485 A-
5	B1+	Master RS-485 B+
6	GD	Master RS-485 Common
7	A2-	Slave RS-485 A-
8	B2+	Slave RS-485 B+
9	COM	Slave RS-485 Common
10	DI1	Digital Input 1
11	DI2	Digital Input 2
12	V5	+5V DC Output
13	GD	Ground
14	V12	+12V DC Output for Dos
15	DO1	Digital Output 1
16	DO2	Digital Output 2
17	ETH	Ethernet Port
18	V+	12V DC Common Positive Supply for 4-20mA Analog
19	AI1	4-20mA Analog Input 1
20	AI2	4-20mA Analog Input 2
21	AI3	4-20mA Analog Input 3
22	AI4	4-20mA Analog Input 4
23	GD	Common Ground for 4-20mA Analog Inputs
24	A1	PT-100 1 FRC
25	B1	PT-100 1 RTD+
26	A2	PT-100 2 FRC
27	B2	PT-100 2 RTD+
28	CO	PT-100 1 and 2 Common

## Product Replacement Warranty

One (1) Year

## Box Dimensions

125X170X66mm

## Ingress Protection

IP65

## Flammability Test

UL94

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