

# Neon Remote Logger - 16 Analog channels 3016A



The 3016 Neon Remote Logger (NRL) is self-contained data logger / rtu with 16 high resolution analog channels in a compact case which connects to sensors in the field, collects readings from those sensors and transmits the collected data to a central Neon server, or operates as a stand-alone datalogger.

The 3016 can be configured to transmit data via a cellular 2G / 3G / 4G / LTE networks, or satellite networks such as Inmarsat, Iridium SBD or Microsatellite, Wi-Fi network. It can also utilise LoRa communication system as its method of sending data from the field to the Neon Server.

All Neon data logger / rtu units routinely collect and log sensor data and periodically connect to a central Neon comms and web server via an IP network using a push data model to upload the logged data. The central Neon server can be cloud hosted, virtual or physical. The Neon server is offered as a Neon data hosted service using a Unidata Neon server for a monthly fee or customers can purchase Neon server license and run the Neon software on their own server. The Neon system receives, processes, displays, stores and reports collected data in many ways. The Neon system can also issue control commands based on pre-set algorithms and issue alarms and notifications via several mediums. Alarm set points can be set up on the Neon data logger / rtu units as well as the Neon central server and alarm notifications can be sent via several methods including email and sms text messages. Alarm triggers can initiate physical actions in the field such as turning pumps on and off or activating other control functions based on the internal program within the Neon data logger / rtu.

The Neon system has fully bi directional communications between the Neon data logger /rtu units and the central Neon server. This allows for remote diagnosis, remote programming and remote firmware updating for operation of the remote equipment and thereby reducing costly site visits. Neon data logger / rtu units can be configured to read sensors, log data internally to local memory and push data to the central Neon server at user settable intervals such as once a minute, every few minutes, every hour, once a day. Data can be viewed on the Neon Web server in near real time from any browser and can be reported to other systems using email, ftp and web services.

## SPECIFICATIONS

PHYSICAL SPECIFICATIONS	
MATERIAL:	Powder Coated Aluminium Enclosure
SIZE:	L295mm x W160mm x H40mm, 850g
OPERATING TEMPERATURE:	-20° to +60°C. Not affected by humidity
ANTENNAE:	Model dependent, external stub/whip/satellite antenna
ELECTRICAL SPECIFICATIONS	
EXTERNAL POWER:	9 to 30V DC (provision for dual power inputs)
CURRENT DRAW:	<800µA Standby, Max 500mA Active
RTC BACKUP BATTERY:	3.6V Li Coin Cell (5 year life)
INSTRUMENT POWER:	12V regulated, 200mA fused, 5V regulated, 100mA fused
ANALOG CHANNELS:	16 Single ended (max) or 8 Differential (max), 24 bit resolution, 4 user selectable gain ranges 0 to 5000mV (gain=1) to 0 to 39mV (gain=128)
MODBUS:	2 x independent channels, RS485, RTU or ASCII protocol, 57600 baud (max), Functions 01, 02, 03, 04, 05/15, 06/16
SDI-12:	2 x independent channels, SDI V1.3 Compliant, instrument and recorder modes supported
UNIDATA HSIO:	High speed serial interface, 16 channels, bi-directional
COUNTERS:	4, 2 x 16 bit, DC to 20kHz potential free contacts or 0 to 5V DC digital input (C0, C2); 2 x 16 bit, DC to 300Hz potential free contacts or 0 to 5V DC digital input (C1, C3)
DIGITAL INPUTS:	4, Low <1.1V, High >2.05V, Max = 5V DC
DIGITAL OUTPUTS:	2 x Open Drain FET, 30V DC, 250mA max

RELAYS:	2, Normally Open and Normally Closed Contacts, 1A 30V DC, 0.5A 125V AC
CONFIGURATION PORT:	RS232 serial port, 115200 maximum baud rate USB A Port, USB B Port and SD Micro Card Optional Bluetooth Low Power Wireless interface
MODEM Options:	LoRa Module, Wi-Fi Module Cellular: 2G/3G/4G/LTE Modem, Dual SIM card support Satellite: Inmarsat, Iridium SBD or Microsatellite Modem
SERIAL INSTRUMENT:	RS232 port, full implementation (all 9 signals available), baud rate 1152000 max
DATA INTERFACE:	USB B Port and SD Micro Card
ETHERNET PORT:	10/100 Mbit
LCD DISPLAY:	320 x 240, Colour, Resistive Touch Panel
KEYPAD:	5 button membrane keypad
ACCELEROMETER:	Senses changes in logger orientation
BAROMETER:	260-1260hPa Absolute Digital Output
INTEGRATED LOGGER SPECIFICATIONS	
STORAGE MEMORY:	7.5Mbytes Flash (non-volatile), 3.75 Million log data points
MEMORY EXPANSION:	SD card, micro size, 32Gbyte maximum capacity, 16 Billion log data points
SCAN RATE:	Programmable from 1 second to 5 minutes
LOG RATE:	Programmable from 1 second to 24 hours
TIME CLOCK:	Battery Backed Real Time Clock (RTC), Accuracy +/- 10 seconds/month (non-Neon version), locked to server time clock (Neon version)
CPU:	16 Bit, 20MHz, Ultra Low Power