



DATA DELIVERY SYSTEM[®]

DATASHEET



Data Delivery

*Intelligent, cloud-connected
modules to pick up and send data
from external sensors; complete
with full Carbic technology*



APPLICATIONS & BENEFITS

The Carbic Data Delivery system gives the power to collect data from nearly any digital sensor and easily monitor production variables from an entire field through one system. Example uses:

- Pressure sensors
- Solar stations and power monitoring
- Temperature sensors
- And more - anything with a standard analog or digital wired output

FEATURES

Carbic Data Delivery Systems install easily, require no maintenance, and automatically send data to Carbic servers and software where it is accessible via any internet connected device:

- Instant installation that only requires a screwdriver
- Advanced satellite telemetry built in
- Ultra efficient battery and solar system
- Intrinsically safe & non-incendive



DESCRIPTION & COMPONENTS

The Carbic Data Delivery System (DDS) is comprised of three physical components to this system: (1) a main CPU module with battery and satellite transmitter, (2) a solar panel to provide power, and (3) an external sensor connection (e.g. a pressure, temperature, etc). The CPU and small solar panel are attached via a single mount that can be quickly clamped onto most pieces of existing infrastructure.

As with all Carbic products, no additional equipment or expertise is needed to start bringing your oil field online. Carbic DDS installs with zero pipe intrusion, and zero external power. Telemetry or SCADA systems are also not needed. This is made possible by a number of breakthroughs and innovations pioneered by Carbic.

TECHNOLOGY INVOLVED

Unlike most universal communications systems that require significant amounts of external power, Carbic DDS uses algorithms to intelligently and dynamically manage its power system; this system allows the sensor to automatically manage its own power usage and supply merely with a solar panel the size of a tablet.

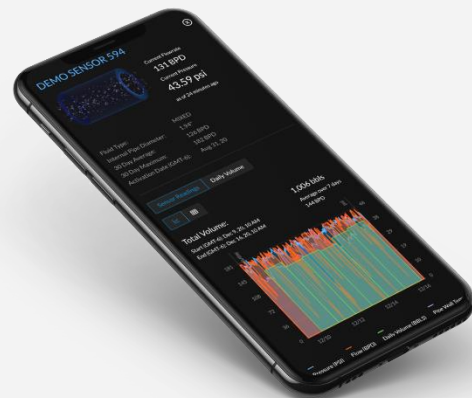
These algorithms also allow Carbic to dynamically manage sampling rates, transmission rates, and optimize telemetry options. This is what enables our ability to offer a secure universal communications system, that works anywhere in the world, for an industry-leading cost.

DATA ACCESS

- Carbic Data Delivery System comes bundled with access to Carbic software so that users can look at data on any device with internet connectivity.
- Carbic software can also route data via APIs to other software. Additionally, the software includes tools that make it easy for users to download data in bulk.



- Carbic software can automatically deliver daily reports and customizable alarms to notify recipients when a monitoring subject is behaving unusually (well going down, etc).



TECHNICAL SPECIFICATIONS

SPECIFICATIONS	
TELEMETRY & COMMUNICATION	
Type	Terrestrial: 4G LTE / NB-IOT, 3G, 2.5G Satellite: LEO Global Network
Direction	Uplink and downlink (down accessible only by Carbic personnel)
Latency	~30s
Transmission Frequency	~24 - 100/day standard
External Power requirements	None (all supplied by included solar panel)
Local Inputs	4-20mA, HART, Modbus/RS485
Local Outputs	HART, Modbus/RS485
ELECTRICAL SPECIFICATION	
Battery size	10,400 mAh
Expected operating time (without power)	200 hours
Solar panel peak power	12 watts
Solar panel peak voltage	19.0 V
Safety mechanism	Intrinsically safe barrier
Total Number of cable inlets	2
MECHANICAL SPECIFICATIONS	
Components	CPU enclosure, solar panel, mounting-clamps
Operating ambient temp range	-4°F to 140°F (-20°C to 60°C)
Mounting style (Solar Panel)	Clamp-on
Dimensions (Solar Panel)	357 x 302 x 30 mm (14.06 x 11.89 x 1.18 in.)
Mounting Style (CPU)	Clamp or screw
Dimensions (CPU)	193.80 x 117.60 x 78.49 mm (7.63 x 4.63 x 3.09 in.)
Aggregate weight	11.2 lbs
Enclosure materials	Polycarbonate Resin (UV Stabilized & Flame Retardant)
Enclosure Ratings	Flame Rating: UL94V-0 NEMA Rating: 1, 2, 4, 4X, 6, 6P, 12, 13 IP Rating: IP65, IP66, IP67, IP68
Module Rating specification	Class I, Division 2, Group D T3C with Class 1, Division 1 port (ISA 12.12.01-2015 / CSA C22.02 No. 213-15 / UL913)



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