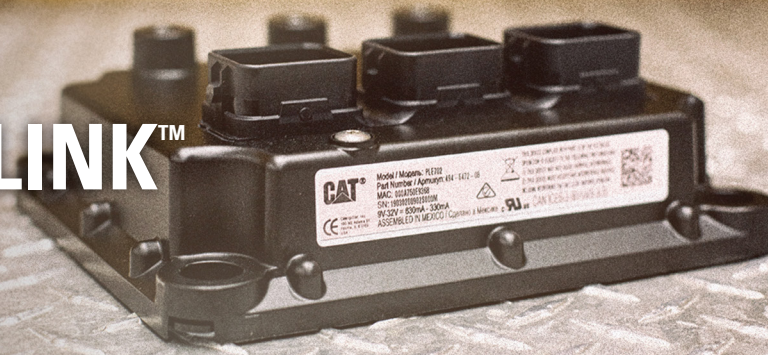




# CAT<sup>®</sup> PRODUCT LINK<sup>™</sup> TECHNOLOGY



## PRODUCT LINK<sup>™</sup> ELITE SYSTEM

### Cat<sup>®</sup> Product Link<sup>™</sup> PLE702, PL243, PL083

The Cat<sup>®</sup> PLE702 Network Manager allows you to collect and monitor the information to maximize the performance of your Cat and non-Cat assets, proactively identify issues that may affect your operations, and allows you to quickly respond to any events that may occur. With the report by exception capability available in our Health & Operations Digital Service, you define what information is most valuable to you and receive alerts in real time. To transmit the data to Cat applications, the PLE702 can be connected via the following methods:

- [+] Ethernet port to a local Internet connection
- [+] PL243 4G LTE Cellular Radio
- [+] PL083 Dual Mode 4G LTE Cellular + Satellite Radio

The network manager can also be used as a local gateway to communicate to a local HMI or PLC and translate data between select protocols.

## [ + ] DATA PRIVACY

Caterpillar's commitment to Data Privacy is reflected in the following statements. Visit [Cat.com](http://Cat.com) to view Caterpillar's "Data Principles" and "Data Governance" statements.

- [+] We are transparent about the collection and use of your data.
- [+] We protect your data.
- [+] We use your data to create value and improve products for our customers.

## DIGITAL SERVICES THAT SUPPORT YOUR EQUIPMENT

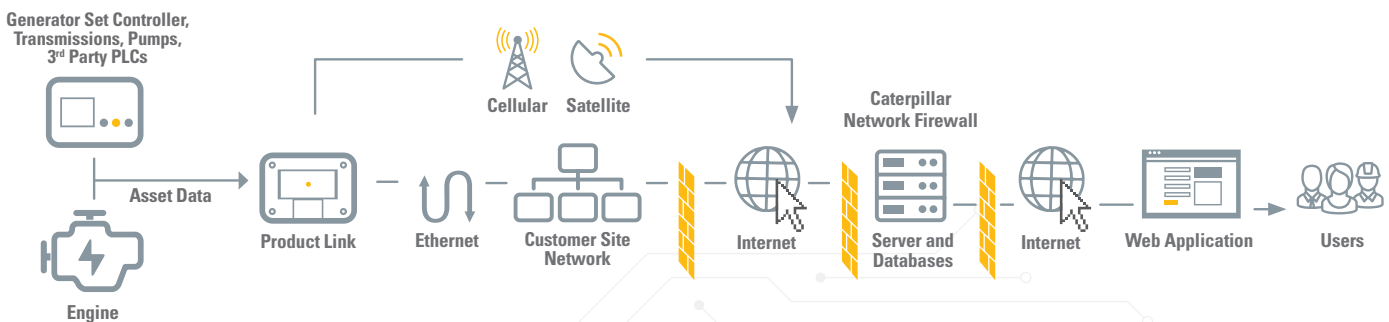


Our digital services are designed for a variety of Cat powered applications. With our digital offerings you can:

- [+] Keep track of every asset in the operation, not just Cat machines. Consolidate complete fleet data to a single source – allowing for simplified management.
- [+] Monitor critical aspects of an entire fleet of equipment to stay ahead of servicing or repair needs to avoid costly, unnecessary downtime.
- [+] Realize increased efficiencies through customized alerts, proactive maintenance, and remote troubleshoot and flash.\*
- [+] Have complete peace of mind when bundling connectivity service with Customer Value Agreement (CVA)

\* Remote services require capable hardware, engine, and cellular or LAN connection.

## END-TO-END ARCHITECTURE



## MADE STURDY & SIMPLE TO USE

The PL243, PL083 and PLE702 are designed to be extremely rugged and virtually maintenance-free to allow for installation in locations on the equipment that are exposed to harsh work environments. The devices support real time remote services including configuration, diagnosis and ECU firmware updates through both a physical LAN and Cellular connection, to get you up and running faster.

**Still need help? Customer support is available 24/7.**



PLE702



PL243



PL083

## PLE702 NETWORK MANAGER TECHNICAL SPECIFICATIONS

### HOW IT WORKS

When the PLE702 Network Manager is installed on a piece of equipment, it becomes empowered with the latest in equipment telematics technology. The product collects data such as location, fuel consumption and fault codes – which the external radio will relay to an information storage database to be viewed and analyzed through Cat RFV to enable Health & Operations Digital Service. It collects both engine data as well as public J1939 parameters from your full machine.

### INDUSTRIAL PROTOCOLS

When the configuration file is loaded into the PLE702, the gateway functionality is enabled. The gateway functionality allows the customer to read equipment data using various industrial protocols over RS-232, RS-485 or TCP/IP. The standard configuration provided by Caterpillar is customized to the engine. The configuration also includes a standard protocol mapping that is consistent across all engines.

[+] Modbus Master and Slave

### INPUT VOLTAGE

Voltage Range            [+] 9.0V to 32.0V DC  
Protection                [+] Reverse polarity

### CURRENT CONSUMPTION (TYPICAL)

Sleep Current            [+] 0.75 mA @ 12V, 1.15 mA @ 24V  
                                    (Wakes to Keyswitch, DTR Wakeup,  
                                    STB/STG Wakeup)  
Peak Current             [+] <2A @ 24V

### PHYSICAL SPECIFICATIONS

Enclosure Material       [+] Heavy Duty Aluminum  
Dimensions (LxWxH) mm   [+] 194 x 169 x 63  
Mounting Hole Pattern  
(LxW) mm                 [+] 165 x 140  
Connectors                [+] 3 x 44 Pin Header  
Weight                     [+] 1.25 kg

### ENVIRONMENT

Operating Temp          [+] -40°C to +85°C  
Storage Temp            [+] -50°C to +85°C  
Ingress Protection      [+] IP68 (35kPA)  
Vibration                 [+] 9.73 grms (20 hours, 3 planes)  
                                    24Hz @ 0.04g<sup>2</sup>/Hz  
                                    60Hz @ 0.50g<sup>2</sup>/Hz  
                                    100Hz @ 0.50g<sup>2</sup>/Hz  
                                    300Hz @ 0.025g<sup>2</sup>/Hz  
                                    2000Hz @ 0.025g<sup>2</sup>/Hz

### INPUTS & OUTPUTS

4 Digital Input	[+] Active Low Signal Ready
1 Switch to Ground	[+] Wakeup
1 Switch to Battery	[+] Wakeup
3 Sinking Drivers	[+] 300mA maximum sinking current
1 RS232 (5-Wire)	[+] EIA RS-232
2 RS232 (3-Wire)	[+] EIA RS-232
1 RS485 Port	[+] EIA-485
2 J1939	[+] CANBus
5 Ethernet Ports (4-Wire)	[+] 10/100 Base-T
6 Ethernet Ports (2-Wire)	[+] Broad-R Reach
1 CDL Port	[+] Cat Data Link
1 USB Host	[+] USB 2.0
4 PWM/Freq/STG Input	[+] Software configurable
R-terminal Input	[+] Ready for direct connection
Key Switch Input	[+] To detect ignition keyswitch operation

### SECURE KEY INJECTION

Security                   [+] Unique and Cryptographic Identity

### REGULATORY COMPLIANCE

RoHS, WEEE, REACH, UL 60950-1, FCC Part 15, European Union (CE), Industry Canada (IC), Australia (ACMA), Eurasian Economic Union (EAC), Pending Marine (DNV/GL, BV, LR, ABS, RINA, CCS, RS), CSA/ATEX certifiable

## PL243 4G LTE RADIO TECHNICAL SPECIFICATIONS

### HOW IT WORKS

The PL243 integrates a positioning receiver with a 4G LTE cellular communication system that will fall back to 3G or 2G signal if necessary to establish a connection. The PL243 will transfer hours, location and other asset data to Caterpillar to be viewed and analyzed through Cat RFV.

### INPUT VOLTAGE

Voltage Range	[+] 9.0V to 32.0V DC
Protection	[+] Reverse polarity

### CURRENT CONSUMPTION (TYPICAL)

Sleep Current	[+] 3mA @ 12V/24V
Idle Current (non-transmitting)	[+] <120mA @ 12V/24V
Transmitting Current	[+] 120-225mA @ 12V/24V
Inrush Current	[+] 1.1A @ 12V/24V

### INTERNAL BATTERY

Battery Voltage	[+] 3.6VDC
Technology	[+] Rechargeable NiMH
Capacity	[+] 500mAh

### PHYSICAL SPECIFICATIONS

Enclosure Material	[+] Flame Retardant, UV Stabilized Polycarbonate
Dimensions (LxWxH) mm	[+] 205 x 100 x 30
Weight	[+] <600 grams
Interface Connectors	[+] 3-, 4- and 6-pin DT
Pigtail	[+] Side or bottom exit
LEDs	[+] Orange (GNSS), Yellow (Cellular), Blue (Ethernet)

### ENVIRONMENT

Operating/Storage Temp	[+] -40°C to +85°C
Ingress Protection	[+] IP66 when mounted
Vibration	[+] 4.41 grms (6 hours, 3 planes) 24Hz @ 0.0082g <sup>2</sup> /Hz 60Hz @ 0.1025g <sup>2</sup> /Hz 100Hz @ 0.1015g <sup>2</sup> /Hz 300Hz @ 0.0051g <sup>2</sup> /Hz 2,000Hz @ 0.0051g <sup>2</sup> /Hz

### CELLULAR COMMUNICATIONS

Quad Band GSM (across all modes)

4G LTE Cat 1	[+] 1, 2, 3, 4, 5, 7, 8, 12 (17), 18, 19, 20, 28
3G	[+] 1, 2, 4, 5, 8, 9, 19
2G	[+] Quad Bands – 850 / 900 / 1800 / 1900 MHz
Output Power	[+] 0.5W typical (2W max)
Operating Temperature	[+] -30°C to +70°C
Antennas	[+] Internal



**Note:** In the case of an extended outage, the capacity of the message queue can be exceeded and some data will be lost as older messages are overwritten.

### POSITIONING (GNSS)

Receiver	[+] GPS / QZSS / GLONASS
Tracking Channels	[+] 50
Update Rate	[+] ≥1 Hz
Position Acquisition	[+] <5s Warm Start, <30s Cold Start
Accuracy	[+] <5m @ 95% Confidence
Sensitivity	[+] -162 dBm tracking
Antenna	[+] Internal

### REGULATORY COMPLIANCE

FCC Parts 15, 22, 24 and 27, Industry Canada (IC), CE, RoHS, REACH, IEC60950-1

For specific information regarding country certifications, please contact your local Cat dealer.

## PL083 DUAL MODE 4G LTE CELLULAR + SATELLITE RADIO TECHNICAL SPECIFICATIONS

### HOW IT WORKS

The PL083 integrates a GNSS receiver with an Iridium Satellite and a 4G LTE cellular communication system. If 4G is not present, it will automatically search for a 3G or 2G signal to connect to that cellular communication system. It will relay hours, location and other asset data to an information storage database to be viewed and analyzed through Cat RFV.

### INPUT VOLTAGE

Voltage Range	[+] 9.0V to 32.0V DC
Protection	[+] Reverse polarity

### CURRENT CONSUMPTION (TYPICAL)

Sleep Current	[+] 3mA @ 12V/24V
Idle Current	[+] 230mA @ 12V/24V
Transmitting Current	[+] 400-700mA @ 12V/24V
Inrush Current	[+] 1.1A @ 12V/24V

### INTERNAL BATTERY

Battery Voltage	[+] 3.6VDC
Technology	[+] Rechargeable NiMH
Capacity	[+] 1000mAh

### PHYSICAL SPECIFICATIONS

Enclosure Material	[+] Flame Retardant, UV Stabilized Polycarbonate
Dimensions (LxWxH) mm	[+] 223 x 120 x 30
Weight	[+] <870 grams
Interface Connectors	[+] 3-, 4- and 6-pin DT
Pigtail	[+] Side or bottom exit
LEDs	[+] Orange (GNSS), Blue (Ethernet), Yellow (Cellular), Green (Satellite)

### ENVIRONMENT

Operating Temp	[+] -40°C to +85°C
Ingress Protection	[+] IP66 when mounted
Vibration	[+] 4.41 grms (6 hours, 3 planes) 24 Hz @ 0.0082g <sup>2</sup> /Hz 60 Hz @ 0.1025g <sup>2</sup> /Hz 100 Hz @ 0.1015g <sup>2</sup> /Hz 300 Hz @ 0.0051g <sup>2</sup> /Hz 2000 Hz @ 0.0051g <sup>2</sup> /Hz

## LET'S DO THE WORK.™

PEHJ0786

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### SATELLITE

Iridium Network	[+] One of the following but not both at the same time: Short Burst Data (SBD) Circuit Switched Data (CSD)
Antenna	[+] Internal
Average power during a transmit slot (max)	[+] 7W
Average power during a frame (typical)	[+] 0.6W
Operating Temperature	[+] -30°C to +70°C

### CELLULAR COMMUNICATIONS

Quad Band GSM (across all modes)	
4G LTE Cat 1	[+] 1, 2, 3, 4, 5, 7, 8, 12 (17), 18, 19, 20, 28
3G	[+] 1, 2, 4, 5, 8, 9, 19
2G	[+] Quad Bands – 850 / 900 / 1800 / 1900 MHz
Output Power	[+] 0.5W typical (2W max)
Operating Temperature	[+] -30°C to +70°C
Antennas	[+] Internal



**Note:** In the case of an extended outage, the capacity of the message queue can be exceeded and some data will be lost as older messages are overwritten.

### POSITIONING (GNSS)

Receiver	[+] GPS / QZSS / GLONASS
Tracking Channels	[+] 50
Update Rate	[+] ≥1 Hz
Position Acquisition	[+] <5s Warm Start, <30s Cold Start
Accuracy	[+] <5m @ 95% Confidence
Sensitivity	[+] -162 dBm tracking
Antenna	[+] Internal

### REGULATORY COMPLIANCE

FCC Parts 15, 22, 24 and 27, Industry Canada (IC), CE, RoHS, REACH, IEC60950-1

For specific information regarding country certifications, please contact your local Cat dealer.

