### Nighthawk

# DirectConnect



## Your Solution to AMI Voids

Nighthawk DirectConnect is direct connection to your AMI system or NightHawk zero-infrastructure AMI. It is a "plug and play" under-glass cellular modem for the kV2c meter and seamlessly integrates with interfaces such as MV-90<sup>™</sup>, Aclara MeterMate, Trilliant PrimeRead, and Trilliant UnitySuite. Direct-Connect provides a robust, secure, and efficient bidirectional message delivery mechanism running over LTE.

DirectConnect looks like any other IP-addressable meter/device via any communications infrastructure It provides a drop-in solution for AMI gap filling or as a replacement for older 2G and 3G cell devices that are no longer supported by most wireless carriers in most areas. This solution can also replace older hardwired analog POTS lines that phone companies no longer typically support because of VOIP lines.

DirectConnect can be easily set up in an existing AMI system with just some setup parameters in the system's software (the MV-90xi<sup>™</sup> system would require the optional TCP/IP module for the MV-90xi to be a part of the MV-90xi system to read meters via a TCP-IP connection). It is currently available in the Aclara kV2c meters and can be provisioned on either the Verizon or AT&T Networks with future meter platforms on the development roadmap.





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### **Functionality**

Connectivity:	AT&T or Verizon LTE cellular
Security:	ANSI C12.22 128-bit AES/EAX
	(combined encryption/authentication)
Memory:	40 kB
Clock Synch:	To LTE network
Firmware:	Over-the-air upgradable
Power Outage:	Aggregated real-time reporting
Restoration	
Reporting:	Aggregated real-time reporting

### Compliance

Radio Emissions:	FCC Part 15 Class A
	Industry Canada ICES-003 Class A
Device IDs:	FCC ID: RI7LE910NAV2
	IC ID: 5131A-LE910NAV2
Safety:	ANSI C37.90.1
	ANSI C62.41
Metrology:	ANSI C12.1
	ANSI C12.18
	ANSI C12.19
	ANSI C12.20
	ANSI C12.21

#### **Radio Performance**

Protocols:	TCP/IP
Modulation:	OFDM (Orthogonal Frequency
Date Rate:	LTE Cat-1 (5 Mbps up , 10 Mbps down )
Frequency	
Band:	LTE Bands 2, 4, and 12 or 13
Transmit EIRP:	+20 dBm (including antenna gain)

#### Power, Physical & Environmental

Burden(including module): TCP/IPS-Base:OFDM (Orthogonal FrequencyTemperature:-22° F / -30° C to +158° F / +70° CHumidity:5% to 95% non-condensing