

APPLICATIONS

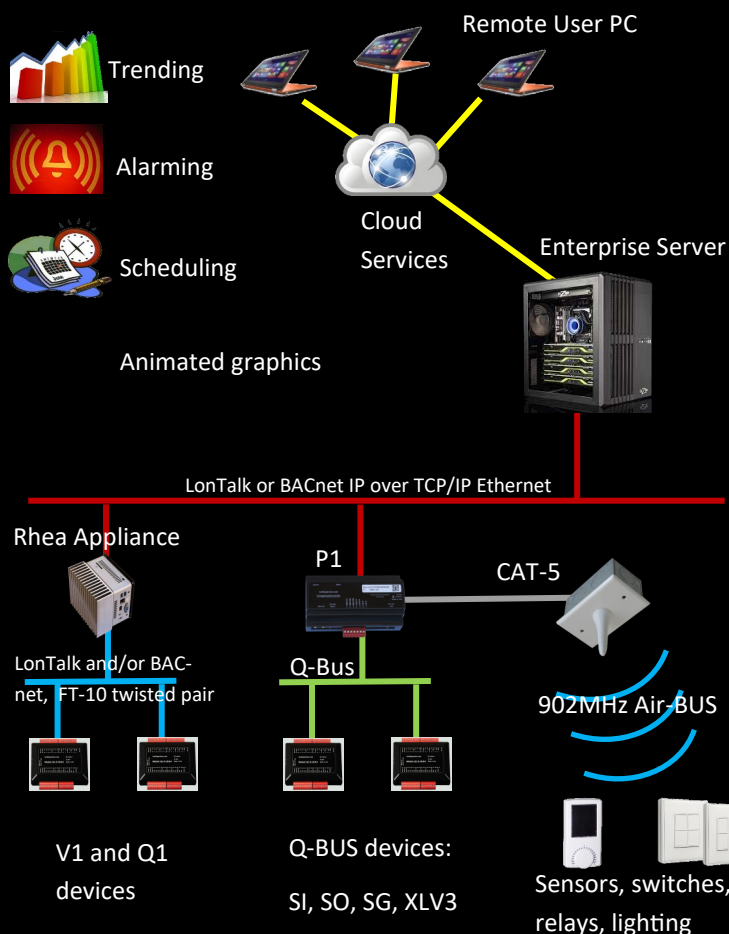
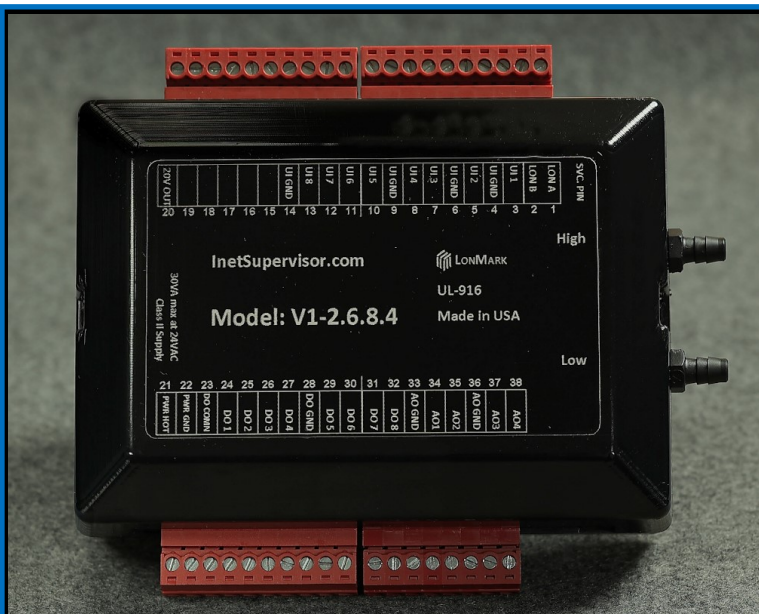
- AHU — Air Handling Units
- MZN — Multi-zone AHU
- EF— Exhaust Fans
- FCU — Fan Coil Units
- HPU — Heat Pump Units
- RTU — Roof Top Units
- VAV — VAV and VVT Terminal Equipment
- NRG —Energy Shedding, manager
- BTU —Energy (BTU) Calculator
- IRR —Irrigation
- LTG— Lighting
- STA — Statistics calculator, i.e. get average valve position of a large number of FCUs

OVERVIEW

The Q1 Series are microprocessor based configurable controllers designed to control, optimize and improve energy efficiency of variety of equipment. All controller features are adjustable with DeviceEditor (part of NetworkManager) software that is free to our customers. The Q1 uses FT-10 transceiver for best in its class networking over twisted pair of wires. FT-10 networks are polarity and topology free. The network utilizes open standard LonTalk and BACnet/IP protocols for interoperability and ease of data exchange.

Q1 features 10 PID loops that are either used by software applications, or when available, are exposed as generic PID for free use with spare I/O.

Q1 supports variety of sensors including thermistors Type II (recommended), and Type III, and custom thermistor array. 4-20mA sensors are well supported with on-board 20VDC output. All sensors types are software configurable.



I/O CONFIGURATION

NOTE: No Hardware Jumpers required to configure I/O

2 x Analog Inputs	The first two inputs accept resistive signals only.
Resistive	Thermistor 10KΩ Type II and Type III (Type II is recommended) Potentiometer with custom scaling Dry contact
6 x Universal Inputs	All inputs have 12 bit resolution
Resistive	Same as above
Voltage	0-10V DC
Current	0-20mA DC
8 x Digital Outputs	
	Triac rated at 1A @ 24V AC w/ external power supply
4 x Analog	20mA max at 30°C, 8bit resolution 0 or 10VDC Digital / Binary

STATUS LIGHTS

LED	
Device status GREEN	Pulsing green = Normal Off = No power or other fault
Service pin GREEN	OFF = Normal, running ON = No application

AGENCY APPROVALS

Safety Certifications	UL916 Energy Management Equipment CSA C22.2#205 Issue 1983/06/01 (R2009) Signal Equipment standard
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WARRANTY

Standard 2-year warranty.



UL916 RoHS



MECHANICAL

Hardware	
Processor	FT-6050, 8bits, 80MHz
Memory	128k application memory
Transceiver	FTT-10; 78kbps
Indicators	Multicolor LED, power, status
Comm Ports	RJ11, LON, TTL
Power	
Supply Voltage	24VAC; 50/60Hz; Class II
Max	30VA
Typical	6VA plus peripherals
Fuse	1.85A auto-resettable
Enclosure	
Material	ABS/PC
Color	Black
Installation	35mm DIN
Connectors	Removable (RED)
Environment	
Temperature	0°-70°C (32°-158°F)
Humidity	0-90% non-condensing
Storage	-20°- 70°C (-4° - 158°F)

Differential Pressure Sensor

20 bit medical-grade pressure sensor is temperature compensated. Pressure range is 0-4in H2O. Pressure ports positive and negative are software swappable for ease of installation.

