VAV–332
PRG

Programmable VAV Terminal Unit Controller

Integrated Damper Motor

OVERVIEW

The HVAC controls market requires a flexible, economical, completely programmable VAV terminal unit DDC controller for unique or custom applications.

The Circon VAV–332–PRG comes complete with an integral brushless damper motor, integral differential pressure sensor and pre–configured functional blocks combined with the power of the Circon BASIC programming language to provide exceptional flexibility. The VAV–332–PRG's pressure sensor is one of the most sensitive, reliable and accurate sensors available.

Completely programmable to meet virtually any application, the VAV–332–PRG is all you need in a VAV terminal unit DDC controller.

APPLICATIONS

Use the VAV–332–PRG to implement any unique or custom single duct, pressure independent airflow VAV terminal unit control application when configurable–only controllers do not meet your needs.

Dual–duct, VVT zone dampers and room pressurization solutions can be implemented.

The VAV–332–PRG accommodates series or parallel fan powered terminal units or terminal units without fans.

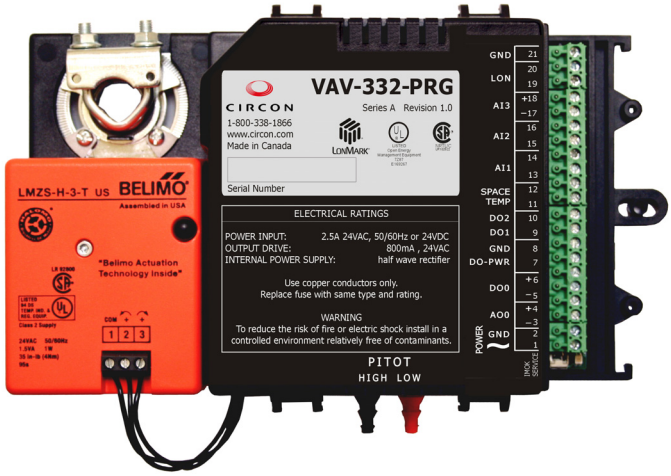
Flexible heating controls allow three stages of electric reheat and analog modulating or floating valve control for hot water heat.

Circon's powerful BASIC programming language is used, along with pre–configured functional blocks and input/output points, to implement the control sequences. Circon BASIC is flexible and powerful, allowing a user with limited programming experience to create custom control sequences for any VAV terminal unit design, using Circon BASIC Compiler software.

The VAV–332–PRG's inputs, outputs, functional blocks and alarming, trending and scheduling are easily configured using free Windows–based plug–in software, which is compatible with Echelon® Corporation's LNS®.

ORDERING INFORMATION

part number 10–0439



ADVANTAGES

- LonMark®–certified for seamless integration into interoperable LonWorks® networks
- Completely programmable with easy to use Circon BASIC programming language
- Easily mounts directly on VAV terminal unit damper shaft
- One resistive input for space temperature with/without bypass button, and three universal inputs (digital, resistive, voltage) for use by application program
- Three digital outputs and one analog output for fan start/stop, floating valve or multi–stage electric reheat control and perimeter reheat control
- PI, actuator and damper functional blocks simplify programming effort
- Onboard soft clock, scheduling and trending decrease costs and increase flexibility
- Transmits alarms for local or remote annunciation
- Faster, easier to use LNS plug–ins

LONMARK 3.4

LONMARK PARTNER

ECHELON OPEN SYSTEMS ALLIANCE

CIRCON

VAV–332 PRG

SPECIFICATIONS

I/O CAPABILITY

1 space temp input	10 KΩ thermistor input, PreCon curve: Type II, model 24 or Type III, model 3.
3 universal inputs	Digital (dry contact), resistive (10 KΩ thermistor), or voltage (0–10 VDC) input
1 pressure sensor	0.013″ H_2O – 1.75″ H_2O (3.2 Pa – 438 Pa)
3 digital outputs	Isolated triac: 800 mA max. – 30 mA min. at 24 VAC., short–circuit protected, auto–reset
1 analog output	0–10 VDC at 100 mA, short–circuit protected, auto–reset

NRTL/C
LR102822

COMMUNICATIONS

Transceiver	Echelon Free Topology Transceiver (FTT–10A) 78 kbps
Wire type	AWG 22 to AWG 16 stranded (use only twisted pair)
Neuron	3150, 10 MHz

POWER SUPPLY

Controller and motor	24 VAC 50–60 Hz at 12 VA
External loads	1.2 A (absolute maximum) available to power external loads
Fuse	2.5 A slow–blow (Bussman GMD–2.5A, Littlefuse 23902.5A)

MECHANICAL

Operating temperature	32°F to 122°F (0°C to 50°C)
Relative humidity	5% to 95% RH (non–condensing)
Weight	1 lb. 11 oz. (780 grams)
Enclosure dimensions	9″ X 5.28″ X 2.125″ (229 mm x 134 mm x 54 mm)
Enclosure material	Polylac PA–776+, FR/ABS
Material approval	UL94–5V
Wire type	AWG 22 to AWG 16 stranded
Mounting	Directly on shaft with one screw

DAMPER MOTOR

Model	Belimo LMZS–H–3–T with stall–protected brushless DC motor
Torque	35 in–lb (4.0 N m)
Power supply	Supplied from VAV–332–PRG
Running time	95 seconds
Angle of rotation	95 degrees adjustable
Fits shaft diameter	5/15″ to 23/32″ (8.5 mm to 18.2 mm)
Manual override	Push button clutch

AGENCY LISTINGS AND REGULATORY COMPLIANCE

Class II device (when powered by class II supply).
CSA 22.2 #205–M1983, #950–M89
UL 916 certification for Energy Management Equipment
Part 15, Class A of the FCC rules for Radio Frequency Devices.
EMC Directive 89/336/EEC
LonMark 3.4 certified, LonMark functional profile: 8502 SCC–VAV

CIRCON SYSTEMS CORPORATION

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CIRCON

PART # 80–0334 / REVISION # 1.0 / PRINTED IN CANADA

VAV–332
XPR

Programmable VAV Terminal Unit Controller

External Damper Motor

OVERVIEW

The HVAC controls market requires a flexible, economical, completely programmable VAV terminal unit DDC controller for unique or custom applications.

The Circon VAV–332–XPR comes complete with a damper control interface, integral differential pressure sensor and pre–configured functional blocks combined with the power of the Circon BASIC programming language to provide exceptional flexibility. The VAV–332–XPR's pressure sensor is one of the most sensitive, reliable and accurate sensors available.

Completely programmable to meet virtually any application, the VAV–332–XPR is all you need in a VAV terminal unit DDC controller.

APPLICATIONS

Use the VAV–332–XPR to implement any unique or custom single duct, pressure independent airflow VAV terminal unit control application when configurable–only controllers do not meet your needs.

Dual–duct, VVT zone dampers and room pressurization solutions can be implemented.

The VAV–332–XPR accommodates series or parallel fan powered terminal units or terminal units without fans.

Flexible heating controls allow three stages of electric reheat and analog modulating or floating valve control for hot water heat.

Circon's powerful BASIC programming language is used, along with pre–configured functional blocks and input/output points, to implement the control sequences. Circon BASIC is flexible and powerful, allowing a user with limited programming experience to create custom control sequences for any VAV terminal unit design, using Circon BASIC Compiler software.

The VAV–332–XPR's inputs, outputs, functional blocks and alarming, trending and scheduling are easily configured using free Windows–based plug–in software, which is compatible with Echelon® Corporation's LNS®.

ORDERING INFORMATION

part number 10–0441

ADVANTAGES

- LonMark®–certified for seamless integration into interoperable LonWorks® networks
- Completely programmable with easy to use Circon BASIC programming language
- Easily mounts directly on VAV terminal unit
- One resistive input for space temperature with/without bypass button, and three universal inputs (digital, resistive, voltage) for use by application program
- Three digital outputs and one analog output for fan start/stop, floating valve or multi–stage electric reheat control and perimeter reheat control
- PI, actuator and damper functional blocks simplify programming effort
- Onboard soft clock, scheduling and trending decrease costs and increase flexibility
- Transmits alarms for local or remote annunciation
- Floating outputs provide clockwise/counterclockwise control for external damper motor
- Faster, easier to use LNS plug–ins

LONMARK 3.4

LONMARK PARTNER

ECHELON OPEN SYSTEMS ALLIANCE

CIRCON

VAV–332 XPR

SPECIFICATIONS

I/O CAPABILITY

1 space temp input	10 KΩ thermistor input, PreCon curve: Type II, model 24 or Type III, model 3.
3 universal inputs	Digital (dry contact), resistive (10 KΩ thermistor), or voltage (0–10 VDC) input
1 pressure sensor	0.013″ H_2O – 1.75″ H_2O (3.2 Pa – 438 Pa)
3 digital outputs	Isolated triac: 800 mA max. – 30 mA min. at 24 VAC., short–circuit protected, auto–reset
1 analog output	0–10 VDC at 100 mA, short–circuit protected, auto–reset

NRTL/C
LR102822

COMMUNICATIONS

Transceiver	Echelon Free Topology Transceiver (FTT–10A) 78 kbps
Wire type	AWG 22 to AWG 16 stranded (use only twisted pair)
Neuron	3150, 10 MHz

POWER SUPPLY

Controller and motor	24 VAC 50–60 Hz at 12 VA
External loads	1.2 A (absolute maximum) available to power external loads
Fuse	2.5 A slow–blow (Bussman GMD–2.5A, Littlefuse 23902.5A)

MECHANICAL

Operating temperature	32°F to 122°F (0°C to 50°C)
Relative humidity	5% to 95% RH (non–condensing)
Weight	12 oz. (320 grams)
Enclosure dimensions	6.75″ X 4.75″ X 2.0″ (172 mm x 120 mm x 51 mm)
Enclosure material	PVC, Inflammability class V0
Material approval	UL94–5V
Wire type	AWG 22 to AWG 16 stranded
Mounting	two sheet metal screws

DAMPER MOTOR INTERFACE

2 digital outputs	drive clockwise or drive counterclockwise to open damper.
	isolated triac – 0.8 A max / 30mA min at 24 VAC, short–circuit protected, auto–reset
Power supply	24 VAC 50 – 60 Hz power required, from controller or external supply
Stroke time	software–configurable

AGENCY LISTINGS AND REGULATORY COMPLIANCE

Class II device (when powered by class II supply).
CSA 22.2 #205–M1983, #950–M89
UL 916 certification for Energy Management Equipment
Part 15, Class A of the FCC rules for Radio Frequency Devices.
EMC Directive 89/336/EEC
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PART # 80–0337 / REVISION # 1.0 / PRINTED IN CANADA