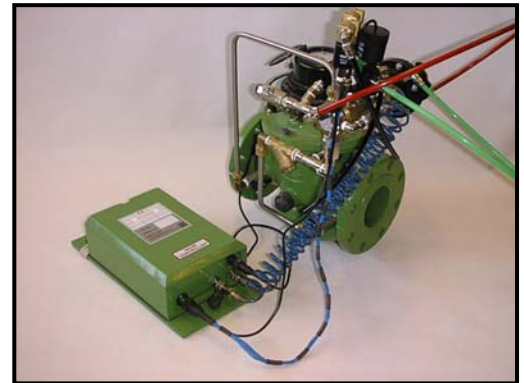# *Pegasus* PRV Controller

INTRODUCTION

Pegasus is Radcom's modulated electronic controller for Pressure Reducing Valves (PRV) with 2 Flow and 2 input Pressure logging and integral Standard Telephone Line or GSM Cellular Telemetry options.

Pegasus can be setup to adjust the pressure between pre set High and Low pressures, at any times for each day of the week. Alternatively this local control can be overriden from the office using the integral Telemetry link. Significant reassurance is given to the Telemetry system by not allowing pressure adjustments outside the mechanically set limits.

Pegasus is completely waterproof, submersible and battery powered and will require no maintenance for at least five years.

TYPICAL APPLICATIONS

Time Based PRV Control
Pegasus is ideal for controlling a PRV to reduce pressure at night, thereby minimizing leakage and reducing the risk of pipe bursts during low usage periods. A Flow meter is not essential for this time based control technique.

Flow Based PRV Control
Pegasus can be used with a Flow input which can be used separately, or to override the time based control when unexpected demands are detected by the Flow meter.
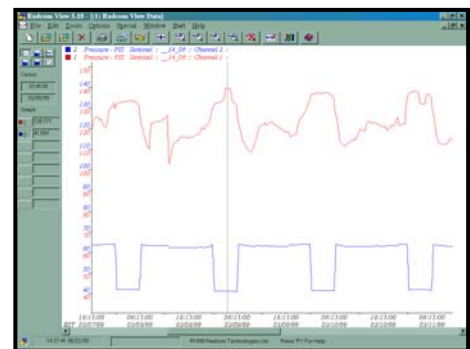
Data Logging with Alarms and Telemetry
Pegasus can log both up stream and down stream pressures in addition to 2 Flow inputs, (similar to 4 input MultiLog). Standard Telephone Line or GSM Cellular Telemetry can be used for alarms or to change the exact regulated pressure from the office.

ADVANCED DESIGN

Pegasus has three output channels for controlling two pulsed pilot solenoids and one latching type pilot solenoid valve (or electrical relays). It also has two digital Flow inputs and two analogue input integral pressure sensors.

The solenoid valve assembly is normally connected to a hydraulic circuit, which in turn will control the main PRV valve, between two mechanically preset pressures. The output pressure can be finely adjusted between High and Low pressure limits. Rapid changes of pressure can therefore be avoided with this adjustable modulated controller.

The Hydraulic circuit is designed to avoid the risk of the main PRV valve from closing completely, or permitting excessive pressure. Therefore the overall control system offers significantly improved intelligent "Fail safe" features than other PRV controllers on the market.

Typical RadLog display showing up stream and down stream pressure data from a Time based PRV system.

All of Radcom's Data Loggers and controllers are compatible with RadLog for Windows™, the industry-standard for data trending, reporting, analysis and archiving. RadLog software has links to GIS systems, if applicable, for simplified data access and a mapped representation of alarms.

Pegasus PRV Controller TECHNICAL SPECIFICATION

Input/Outputs	2x Digital input	2x Uni- or bi-directional pulse.
		Up to 128 pulses per second. Count or Event Logging modes
	2x Analogue inputs	Internal Pressure Transducer 0-20 bar / 0-200 metres head / 0-300 psig, accuracy ±0.25%
		External Pressure Transducer (volt) or Transmitter (mA) 0-20 bar / 0-200 metres head / 0-300 psig, accuracy ±0.1%
		4-20mA from isolated sensor, or 0-1v, 1-5v, or 0-100mVolt.
	3 x Solenoid Outputs	1x Latching Solenoid output , Solenoid 12 volt rated 3 wire output: Common plus one to latch solenoid, other to release
		2x Pulsed Solenoid outputs, 2 wire Solenoid 12 volt rated
		Up to 20 solenoid firings per day, then automatically applies error default, to minimize the risk of flattening the battery unnecessarily
Logging Features	Memory	Primary recording 48,720 readings. (Cyclic or Block) (memory expandable to 245,280 readings on request)
		Secondary recording 6,144 readings.
	Frequency	1 – 59 seconds, 1 – 59 minutes, 1 – 24 hours settings independent for primary and secondary channel.
	Alarms	16 Alarms per logger. Each with 16 character comment field. Can auto dial up to 16 telephone numbers, 1 per alarm
	Logger ID	Up to 8 alphanumeric characters – can be programmed with GIS number. Also readable factory set serial number in firmware.
	Site ID	Up to 127 alphanumeric characters.
	Clock	On board 24 hour real time clock with date facility.
Controlling Features	Summer/Winter	Clock is programmable for seasonal time changes (if applicable)
	Time Based Control	Up to 32 On or Off times programmable for the following groups:- 7 individual days per week, Week Days, Weekend, Every Day.
	Flow Based Control	Flow based control, or Flow override option
	Fail Safe	Default Fail Safe can be configured to "Set" or "Release" the latching solenoid upon error (e.g. faulty sensor / No flow)
Communications	Serial	RS232 by MIL connector for connection to RadLink, laptop/ PC or RadNet GSM telemetry unit. Programmable up to 19,200 Baud.
	Internal modem	2,400 Baud Standard Telephone Line internal modem (Optional)
	GSM (option)	9,600 Baud 2-way GSM Cellular modem. (Optional RadNet)
Physical	Dimensions	250H x175W x90H mm (9.9"H x6.9"W x3.6"H)
	Construction	Die-cast aluminum enclosure, powder coat spray painted
	Weight	1.6 Kg (3.5 lb)
	Operating temp	-20 to +70°C (-5 to +160°F)
	Ingress protection	IP68 submersible
	Power	Lithium-ion cell operational for 5 years under normal operating conditions. Warranted for continuous operation of up to five years. Data recoverable at factory with Low battery condition

Due to our policy of continuous product development Radcom reserves the right to change specifications without notice.

R	D	C	7	3			L	/	i/p 1	i/p 2	i/p 3	i/p 4	/	

1= Portable
2= PSTN modem
6= GSM modem

1= 1 input
2= 2 inputs
3= 3 inputs
4= 4 inputs

1= digital pulse input
2= 0-1 volt input
3= external pressure
5= 4-20mA
6= internal pressure
7= status

Blank = no GSM
RCI = GSM, call during time window
RCIP = pager wakeup, call any time