

# ekoCALM

## Cellular Wireless Data Loggers



**Control / Alarm / Log / Monitor**  
*Via the Worldwide Web*

# Control, Alarm, Log and Monitoring Via the Web

The ekoCALM range of pulse and/or analogue loggers provide access to logged data over the WEB. The units/service can monitor inputs, control outputs, and send alarms and logged data by email. SMS alarming is also available if required.

The ekoCALM loggers are delivered as a complete fully tested unit including hardware, and SIM card with battery, mains or solar power supply as applicable. Its weatherproof polycarbonate IP65 enclosure and low power consumption make it ideal for remote monitoring and data acquisition applications.

Three standard models are available each with either battery, solar or mains power. All units may utilise "sleep" mode to conserve power – the units will log data and monitor alarm input status when in sleep mode.

## ekoCALM Pulse

Primarily for water metering or other pulse counting applications such as rainfall logging. This unit includes 7 inputs, 3 of which can be pulse inputs.

## ekoCALM Analogue

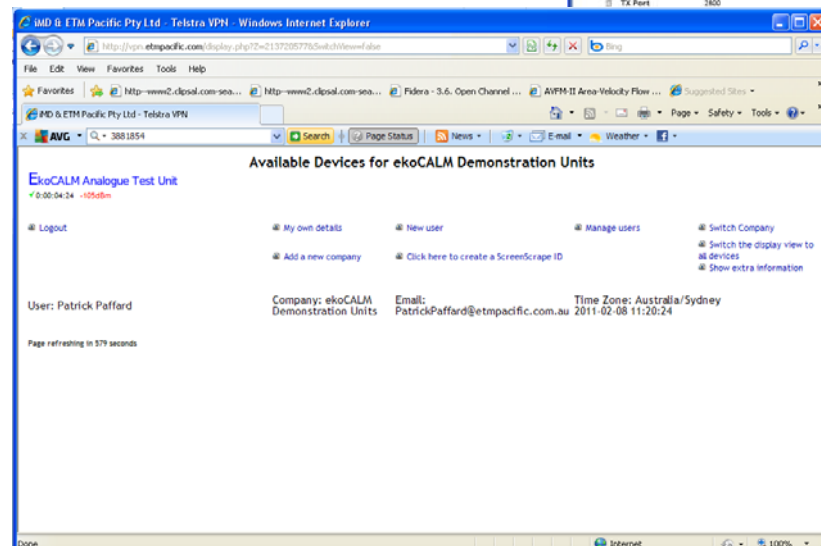
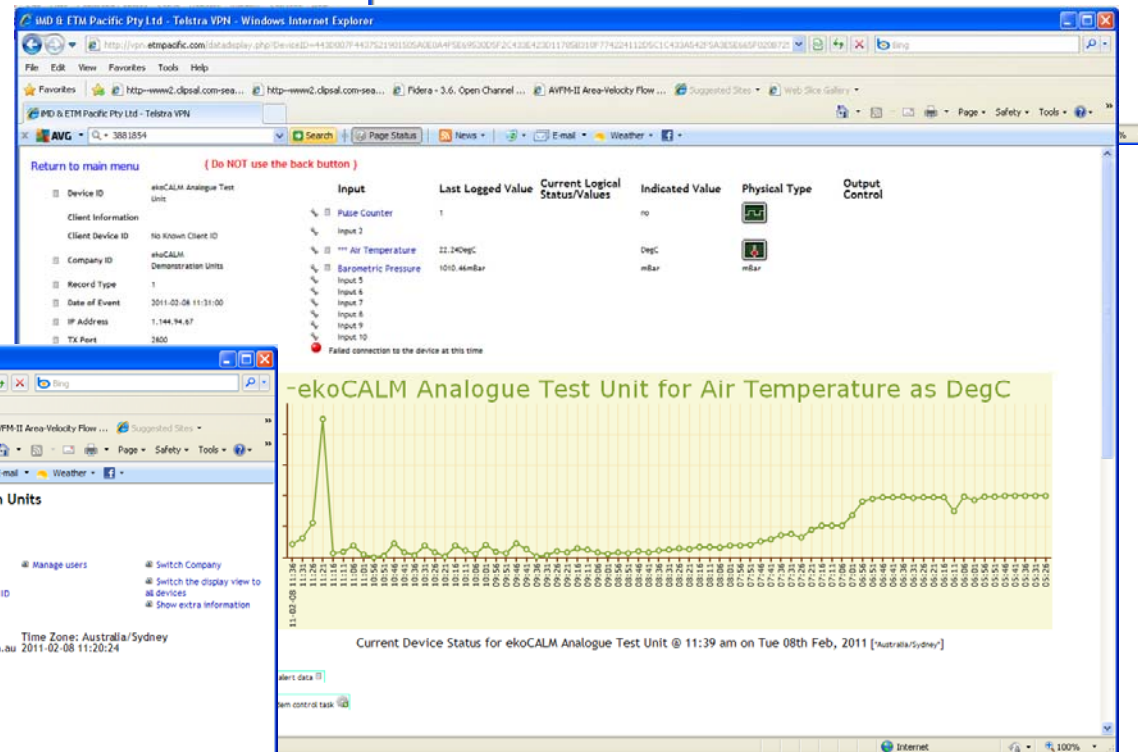
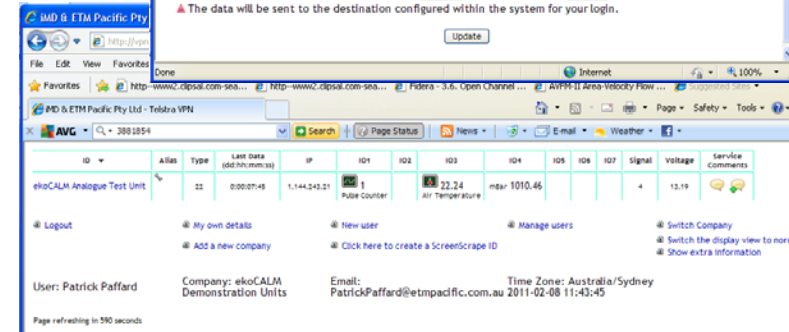
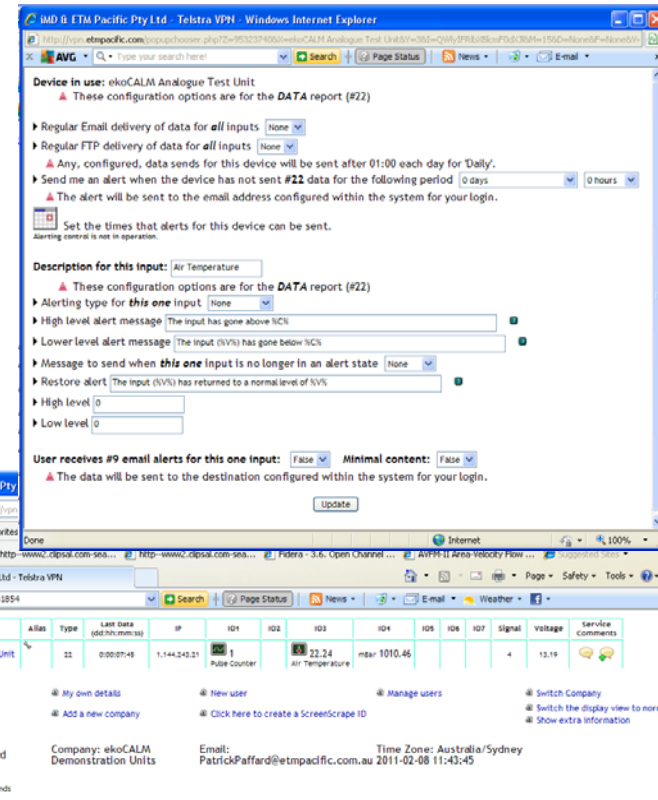
An analogue and/or pulse data logger with 5 of inputs (4-20mA, 0-10V or 0-2.5V) and 2 digital inputs, 3 of which can be pulse inputs.

## ekoCALM Analogue Plus

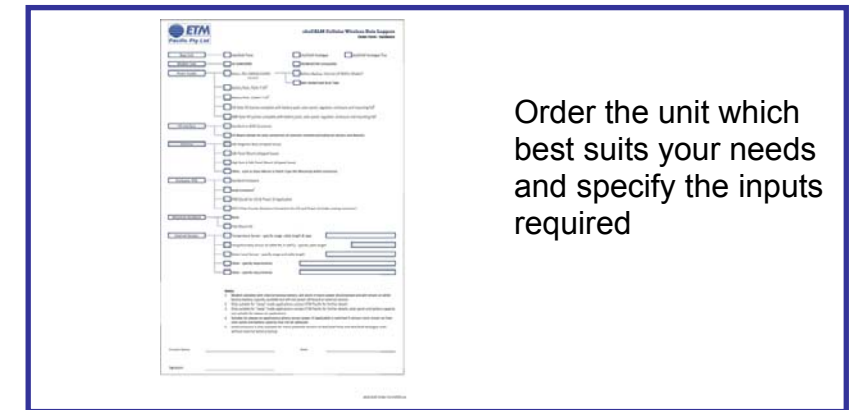
An analogue and pulse data logger with 31 inputs, 12 of which can be analogue (4-20mA, 0-2.5V, 0-5V, 0-10V) and 3 of which can be pulse inputs

## Applications

- Automated water metering
- Rainfall monitoring and alarm
- Environmental monitoring
- Automated water level monitoring
- Temperature (humidity) monitoring in remote warehouses, store and cool rooms
- Remote monitoring of any pulse and/or analogue inputs



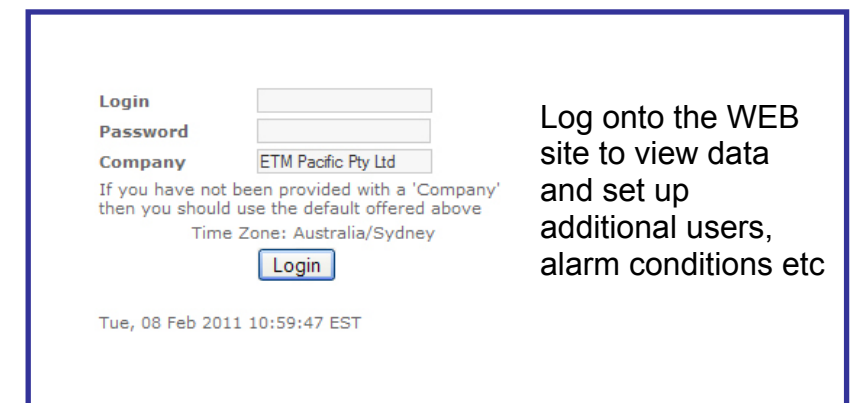
## ekoCALM - Simple, Quick and Easy



Order the unit which best suits your needs and specify the inputs required



Receive the unit, connect power/battery and sensors...unit will start and automatically, then send data and alarms as appropriate



Log onto the WEB site to view data and set up additional users, alarm conditions etc

# Specifications – Standard Packages

Model	ekoCALM Pulse	ekoCALM Analogue	ekoCALM Analogue Plus	
Description	ETM Modem and SIM plus Battery and/or Mains PSU supplied as a complete kit for use with ekoCALM Web Site	ETM Modem, I/O Board and SIM plus Battery and/or Mains PSU supplied as a complete kit for use with ekoCALM Web Site	ETM Modem, I/O Board, SIM and Wudl Data Logger plus Battery and/or Mains PSU supplied as a complete kit for use with ekoCALM Web Site	
Inputs (I/O)			31 with functionality as indicated below	
Total No. of Inputs	7 with shared functionality as indicated below	7 with shared functionality as indicated below	24 on Wudl and 7 on Modem	
<b>Analogue Inputs (AI)</b>				
No. of Analogue Inputs	5 0-2.5V	5 <sup>1</sup> 0-2.5V, 0-10V, 4-20mA	7 0-2.5V, 0-5V, 4-20mA WUDL LOGGER I/O	5 0-2.5V, 0-10V, 4-20mA MODEM I/O
Alarm Functionality	High Level, Low Level or Both with Programmable Delay		i) Normal Switch ii) Inverted Switch iii) Normal Window iv) Inverted Window All include a hysteresis setting to prevent excessive switching at threshold levels	Refer ekoCALM Analogue
Programmable Logging Rate	Yes, Standard Setting is 15 Minutes		Yes, Standard Setting is 15 minutes	
Typical Accuracy Across Full Range	0.5%		4-20mA ±0.25% 0-2.5V ±0.25% (input resistance >100kΩ) 0-5V ±5%* (Input resistance 20kΩ)	Refer ekoCALM Analogue
<b>Digital Inputs (DI)</b>				
No. of Digital Inputs	I/O 1 thru 7: LL<0.5V, HL>2.0V, Max Input ±50VDC (shared)	I/O 1 thru 7: LL<0.5V, HL>2.0V, Max Input ±50VDC (shared)	16 Optically Isolated	Refer ekoCALM Analogue
Alarm Functionality	Yes, NO, NC or both with Programmable Delay		Yes, NO, NC or both with Programmable Delay	
<b>Digital Outputs (DO)</b>				
No. of Digital Outputs	I/O's 1 thru 7: LL0V, HL3V, 0.1mA (shared)		N/A	
Relay or MOSFET Outputs	N/A	I/O's 1 thru 7 2A 30VDC Relays with Normally Open and Normally Closed Contacts	1, MOSFET Maximum 100mA 25VDC (not controllable via web interface)	Refer ekoCALM Analogue
<b>Pulse Inputs</b>				
No. of Pulse Inputs (which can be logged)	3 (shared)		16	Refer ekoCALM Analogue
<b>Switched Sensor Power Supply</b>				
No. Sensor Power Supplies	N/A	1, 24VDC Standard, 100mA maximum with programmable sensor warm-up time. Uses I/O7 to switch power (if applicable)	1 Switched Supply 12VDC, 30mA maximum with programmable sensor warm up time	Refer ekoCALM Analogue
<b>Hardware Generated Alarms</b>				
No. of Alarms	High and Low Level Alarms for Each Input		16	Refer ekoCALM Analogue
No. Phone Numbers (SM)	5		8	
Scheduling	No		Yes	
Escalation	No		Yes	
Time delay	Yes, programmable		Yes, programmable	
Daily alarm limit	Yes		Yes	
<b>Alarm Functionality Available Via ekoCALM</b>				
Alarm Delivery Method	Email		Email	
Programmable Alarm Types	Input Generated, High Level, Low Level or Both Supply Voltage, Low Level Signal Strength, Low Level Failure to Report (send data)			
No of Alarm Destinations	Sent to Each User Who Has Been Set to Receive Alarms.			
Forwarding of Hardware Generated Alarms	Yes, programmable			
<b>Logging</b>				
Hardware Log Limit, maximum number of logs	1 Input logged – 3412 slots @ 1 minute logging = 56 hours 52 minutes storage 2 Inputs logged – 2362 slots @ 1 minute logging = 39 hours 52 minutes storage 3 Inputs logged – 1806 slots @ 1 minute logging = 30 hours 6 minutes storage 4 Inputs logged – 1482 slots @ 1 minute logging = 24 hours 22 minutes storage 5 Inputs logged – 1228 slots @ 1 minute logging = 20 hours 28 minutes storage 6 Inputs logged – 1058 slots @ 1 minute logging = 17 hours 38 minutes storage 7 Inputs logged – 930 slots @ 1 minute logging = 15 hours 30 minutes storage		256kbytes	Refer ekoCALM Analogue
ekoCALM Log Limit	None			
Logging interval	15 minute standard, minimum of 1 per minute (higher charges may apply)			
Values Which Can be Logged	Analogue and Pulse Inputs			
<b>Communication</b>				
Programming/Configuration Port	RS232 Serial, DB9			
<b>Physical Characteristics</b>				
Dimensions – Standard Enclosure	170mm x 270mm x 210mm		190mm x 290mm x 140mm	
Dimensions – Small Enclosure <sup>3</sup>	125mm x 175mm x 100mm		N/A	
Weight <sup>4</sup>	2.8kg		2.9kg	3.0kg
Power Input	6 to 36VDC 600mA		6 to 36 VDC 600mA	12 to 16 VDC 600mA
Typical Power Consumption in Different Operating Modes <sup>5</sup>	<250mA Transmitting <35mA Idle 0.7mA Sleep Mode		<270mA Transmitting <50mA Idle 0.9mA Sleep Mode	<270mA Transmitting <50mA Idle 0.9mA Sleep Mode
Environmental <sup>6</sup>	-20°C to +55°C, 5 to 95% humidity non-condensing		-20°C to +50°C, 5 to 95% humidity non-condensing	
Standard Enclosure Type	IP65 Polycarbonate, Gray			
Optional Small Enclosure Type	IP65 ABS Gray			

Notes:

- I/O7 may be used for sensor power switching
- For 0-5V range accuracy is after calibration (by others) 0-5V range not calibrated unless specifically requested.
- Note small enclosure cannot be used with battery pack options
- Weight given approximate and is for unit with 114ahr Li-SOCL2 battery pack
- Power consumption figures without any sensors connected
- Upper limit is 40°C for units using modems with internal LiP backup batteries

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