



# PowerMonitor™

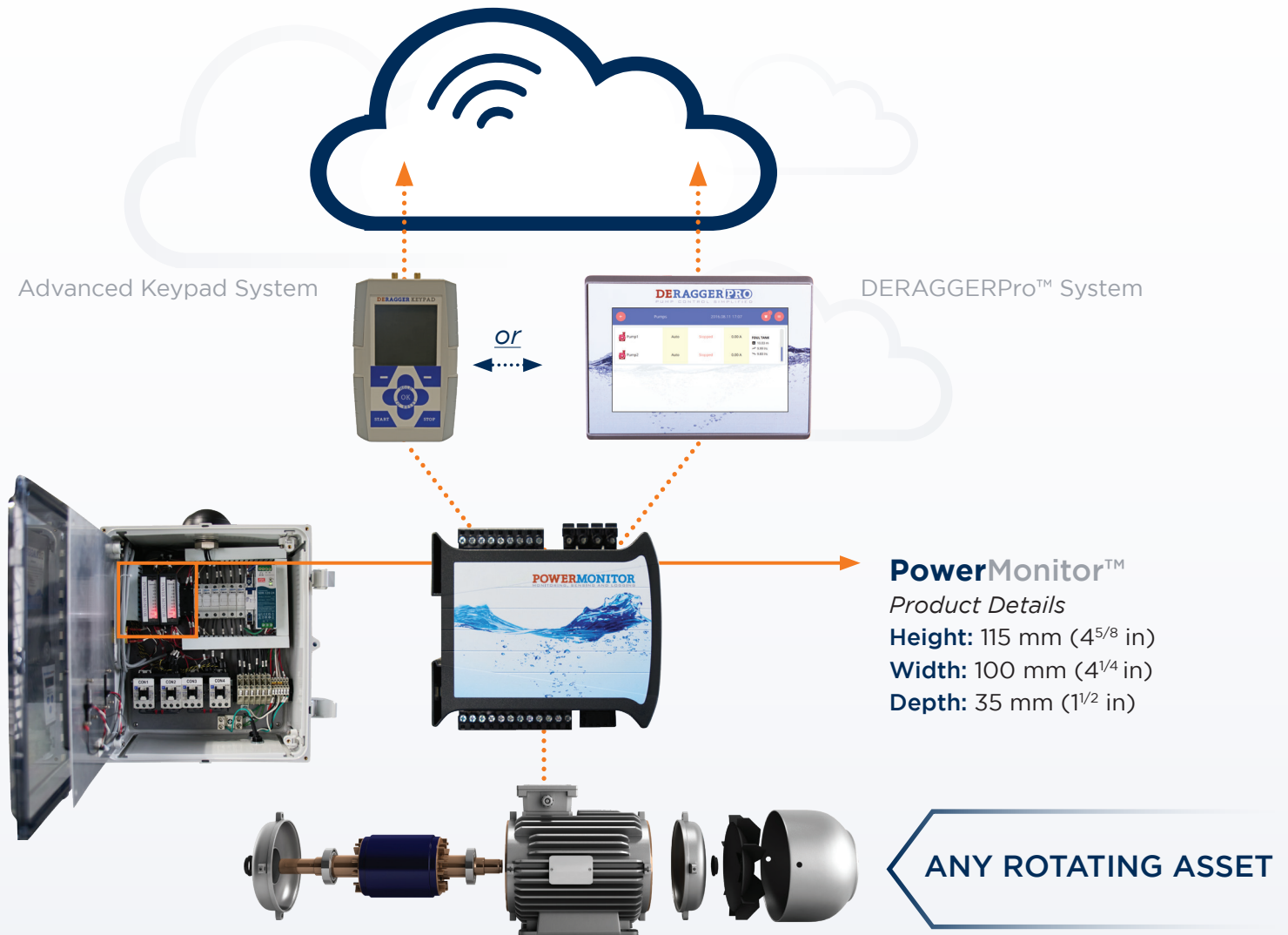
**MONITOR | PROTECT | CONTROL™**



**INDUSTRIAL  
FLOW  
SOLUTIONS™**

# MONITOR | PROTECT | CONTROL

The compact **PowerMonitor™** allows you to add real-time protection and monitoring powered by intelligent machine learning to any piece of rotating equipment. Everything from clean water pumps to conveyor belts can utilize the built-in capabilities of complete motor protection, data logging, connectivity, and condition monitoring.



## AVAILABLE SOFTWARE APPLICATIONS



### Condition Monitoring

Uses historical averages to detect deviations and predict failure modes proactively



### Data Logger

Stores up to 20 years of high-resolution data



### Derived Flow

Calculates flow by pairing level input with known tank dimensions



### Motor Protection

Under, over, or imbalanced current

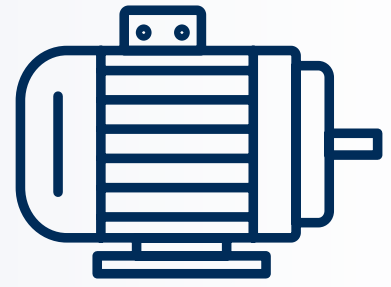


### Dry Run Protection

Triggers alarm or suspends pump at point of air entry

## CONDITION MONITORING

- Fully customizable date range logs up to 365 days of average performance data
- Optional temperature & vibration monitoring
- Customizable deviation set points to indicate motor health
- Alarm and/or trip notification



**MONITOR**

## MOTOR & EQUIPMENT PROTECTION

### Phase Monitoring & Loss Detection

All alarm monitors can be individually assigned to specific outputs or communed up to available outputs.

### Current Imbalance

Detects current imbalance.

Configurable deviation and engineered deadband settings.

### Over/Under Voltage and Current

Senses over and under voltage or current parameters using configurable setpoints and engineered deadbands times.

### Thermal Overload

Protects an individual motor with a built in IEC thermal overload.

### Frequency Monitoring

Detects if the frequency goes out of range with custom settings for degree and debounce time.



**PROTECT**

## DATA LOGGING

- Pinpoint analysis to identify anomalies
- Configurable sampling intervals down to 1 second
- Data stored for 20 years in keypad
- Allows for predictive maintenance and replacement schedules for asset
- 170 timestamp events, alarms and trips are stored on the device

### Diagnostic counters include:

- No. of starts
- Last run time
- Motor run hours
- kW/Hrs
- Under/Over current and voltage trips
- Phase loss trips
- Average daily kW/hrs, run time, and current consumptions
- Average daily kW/pumped flow (4-20mA input)



**CONTROL**



# INSTALLATION APPLICATIONS



Power Generation Generator



Data Center Chillers



Cooling Towers



Pump Motors

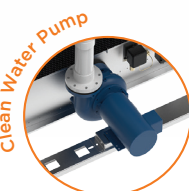


Conveyor Drives

**PowerMonitor™**  
*With a Cooling Tower,  
Electric Fan Motor & Clean Water Pump*



Electric Fan Motor



Clean Water pump



Advanced Keypad or DERAGGERPro™

# PRODUCT OFFERING & ORDERING INSTRUCTIONS:

The **PowerMonitor™** is available in two system options, kitted with the necessary accessories for convenience and ease of installation:

## Step 1 Select System

### DERAGGERPro™ System

Network control of up to 16 assets



- System redundancy
- Built-in security preferences
- 10" touch screen
- Built-in communication protocols

#### Order (1) Kit

for up to 16 rotating assets.

#### Each Kit Contains:

(1) DERAGGERPro,  
up to (16) **PowerMonitor™** modules

### Advanced Keypad System

Local station control of 1 asset



- TCP/ Ethernet connectivity
- Built-in LTE available
- LORA radio
- Start / Stop function

#### Order (1) Kit

per rotating asset.

#### Each Kit Contains:

(1) Advanced Keypad  
(1) **PowerMonitor™** module

## Step 2 Configure Part Number

Part Number: **CWC\_PRO\_XPM\_YYY**

Use **X** to specify the quantity of **PowerMonitor™**:

2 = Two PowerMonitor Modules  
3 = Three PowerMonitor Modules  
4 = Four Power Monitor Modules

Use **YYY** to Specify Amperage Rating:

50 = 50 AMP      400 = 400 AMP  
100 = 100 AMP      600 = 600 AMP  
200 = 200 AMP      800 = 800 AMP

Part Number: **CWC\_AK\_PM\_1/2\_M\_YYY**

Use **YYY** to Specify Amperage Rating:

50 = 50 AMP      400 = 400 AMP  
100 = 100 AMP      600 = 600 AMP  
200 = 200 AMP      800 = 800 AMP

### All System Kits Contain:

- Current transformers
- Cables and installation accessories
- Spark Plug B communications available
- USB drive with software and documentation

For assistance, configuring your system, please contact [applications@flowsolutions.com](mailto:applications@flowsolutions.com)

## Description

Protection Degree  
Mounting Description  
Operating Condition  
Power Consumption  
Digital Input Voltage  
Insulation  
Relays  
  
Solid State Relay  
Voltage Measurement  
Analogue Inputs (0-20mA)  
Status Feedback & Internal Fuse  
Terminals  
Communications  
Logging  
Current Ratings

## Value

IP20  
TS35 Din Rail  
0-50 C (Non Condensing)  
4-5 W Typical 1 A Fused  
3x100-230 VAC Optically isolated, Tolerance: +/- 1-%  
2.5kV  
3x Volt Free SPNO (250V, 3A max) /  
1x Volt Free SPDT (250V, 10A max)  
1x SPNO (250V, 100mA max)  
Up to 600Vac  
1x Passive, 1x Active/Passive, 15VDC for Loop Power  
10LEDs & Operator Keypad, 1A  
Torque 0.5Nm, Conductor CSA 0.5-2.5mm<sup>2</sup> 20-14 AWG  
2 wire RS485 Modbus RTU  
20 Years at 5s intervals  
0-800A

## Advanced Keypad

### Description

Protection Degree  
Mounting Arrangement  
Operating Conditions  
Supply Voltage  
Power Consumption  
Display  
Mounting Screws  
Communications  
Cloud Compatibility  
Storage  
Connectivity

### Value

IP60 Optional IP65  
M3 Screws  
0-40C (Non Condensing)  
15 - 25Vdc  
5W Typical, 75W Max  
3" 160x160 Monochrome LCD Display  
Torque 0.5Nm  
2 wire Modbus RTU, Modbus TCP/IP, LTE  
MS Azure, MQTT Spark Plug B  
SD Card 5 Million entries  
USB Mini

# DERAGGERPro™

## Description

Protection Degree  
Mounting Arrangement  
Operating Conditions  
Supply Voltage  
Power Consumption  
Display  
Cloud Compatibility  
Communications  
Storage  
CPU

## Value

IP65 (Front Panel)  
272mmW x 176mmH  
0-50C (Non Condensing) 0-60 Option  
9 - 36Vdc  
14W Max  
10.1" 1280 x 800 TFT-LCD 16.2MColor  
MS Azure, MQTT Spark Plug B  
Modbus RTU 485, Modbus TCP/IP, LTE Optional  
Removable 32GB, 20 years of Data  
Quad Core



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