



Wings Smart Guard Monitoring SGM 2.0

SMG 2.0 Smart guard monitoring (referred to as the “Controller”) is mainly used to monitor the over-temperature and water entering of submersible pump that might be caused in the running process, in order to ensure the normal operation of the equipment.

CERTIFIED
ISO 9001
ISO 14001
ISO 45001
ISO 50001



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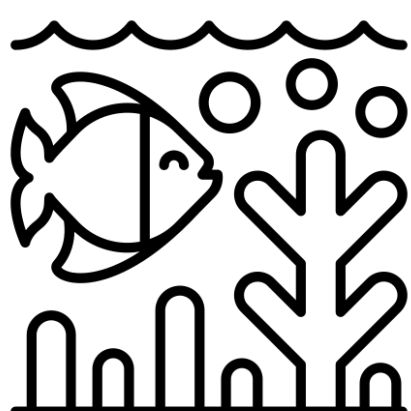


APPLICATIONS



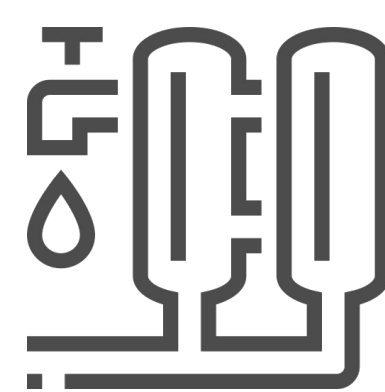
Storm Water Drainage

Supports structures, channels and pipes that carry stormwater (rain water) to ponds, lakes, streams and rivers.



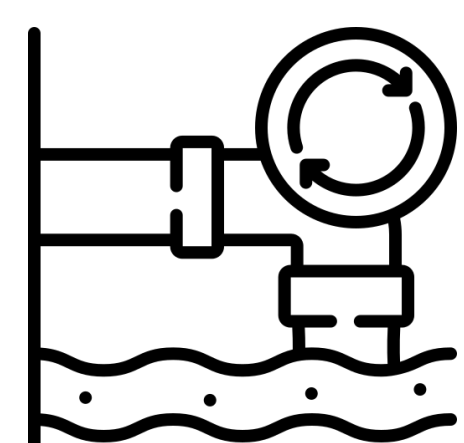
Irrigation and Aquaculture

Used for irrigation and aquaculture ecosystems. Environmentally-friendly.



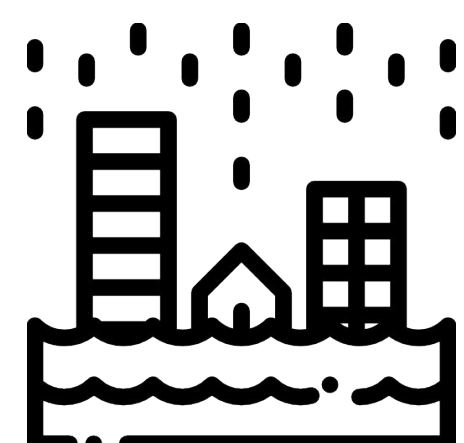
Raw Water and Processed Water

Supports raw water intakes and applicable intakes for water treatment plants.



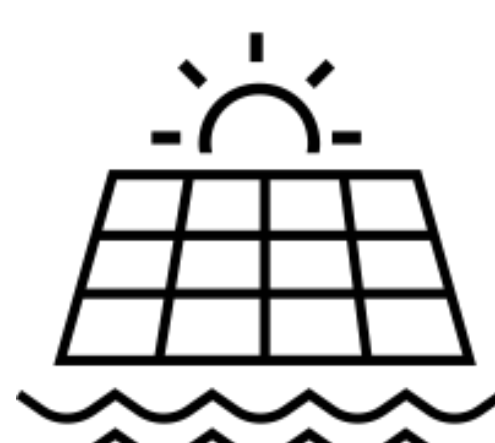
Sewage and Recirculation Sludge

Designed to move the thickest mixtures and pass large pieces of debris without damage or wear on the pump.



Municipality

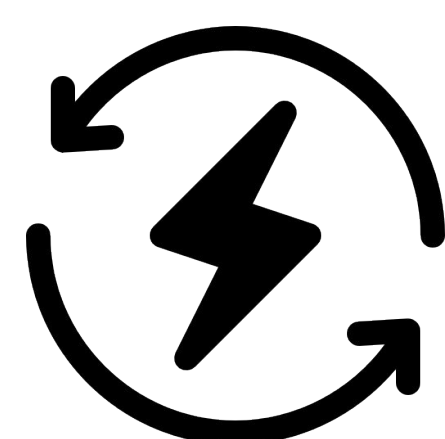
Well-Integrated with municipality work and projects with high requirements.



Renewable Energy

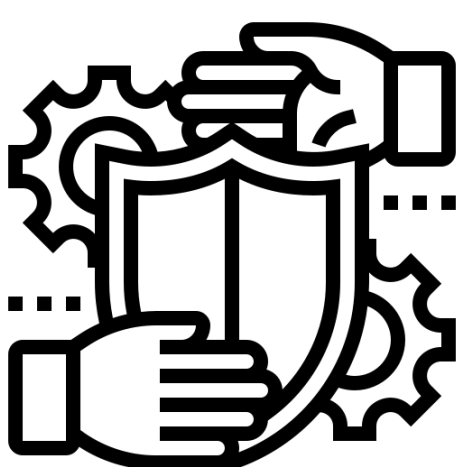
can be used with solar cells for sustainable energy with smart device that properly manage the process and prevent pump damage.

KEY BENEFITS



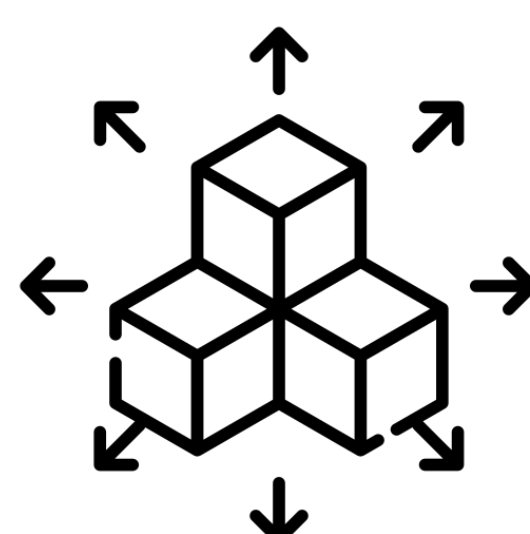
Better Power Consumption

Save more power with Premium Efficiency Motors.



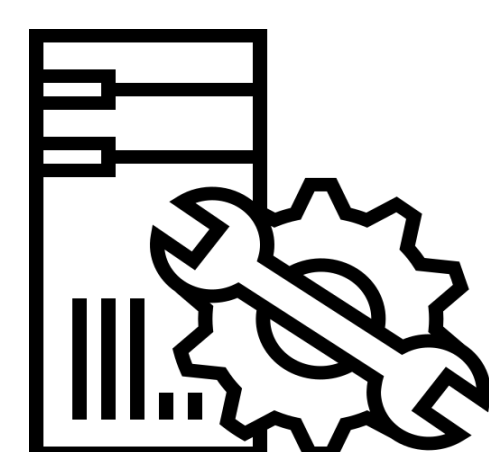
Stability and Reliability

Wings Pumps’ advanced engineering provides better stability and reliability.



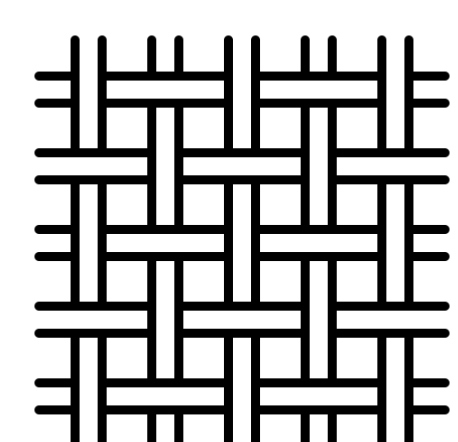
Wide Range of Operations

Wings Pumps are more versatile and can be used in a wide variety of operations.



High Flexibility in Installations

Wings Pumps can be installed perfectly in various situations and setups.



Flexibility in Material

Customize pumps with various material and composites to better suit your operations.



Internet of things

Through the cloud network system, the system organizes data and keeps tabs on the pump's operational state. User can be real-time observation possible.

FEATURES AND BENEFITS

Our new-generation IoT ecosystems from *Wings Pumps* provides high reliability, reduced installation and maintenance costs, with a longer lifetime.

Main Design Indexes

1. Temperature display range: 0-200℃
2. Setting range of A/B/C winding temperature: 0-200℃
3. Setting range of D/E/F bearing temperatures: 0-200℃
4. Temperature display error: $\leq \pm 2^{\circ}\text{C}$
5. Control mode: monitoring/supervising mode, switch through local keyboard or remote control
6. Correction method for temperature display error: through keyboard or remote regulating
7. Specification of temperature sensor: Pt100 $\leq 2\%$
8. Inter-electrode water conductive resistances of oil chamber: $< 30\text{K}\Omega$
9. Data and event records, and storage time
 - 9.1 Accumulative running time of motor: 60000 hours (cycle)
 - 9.2 Winding temperature and bearing temperature: 1 point/minute (within current 120minutes); 1 point/30 minutes
 - 9.3 Event: 50 times of cycling (record the category, date and time of event)
10. Communication interface
 - 10.1. Interface type: RS485
 - 10.2. Communication protocol: MODBUS-RTU
 - 10.3. Baud rate: 1200 bps, 2400 bps, 4800 bps and 9600 bps
 - 10.4. 1 start bit, 8 data bits, 1 stop bit
11. Contact capacity of alarm and control relay: 5A/250VAC, 10A/28VDC 3.12. Power supply voltage: 65V~255V (AC/DC)
12. Environment requirements
 - 12.1. Working temperature/humidity: $-10^{\circ}\text{C} \sim +50^{\circ}\text{C}$, 5~95%RH
 - 12.2. Storage temperature: $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$
 - 12.3. Other: place without corrosive gas

Operating Modes

There are two kinds of operating modes: monitoring mode and supervising mode.

1. Monitoring Mode

1.1. Show the temperatures at 6 points (hereinafter referred as six-point temperatures), including the three-phase windings (indicated with A, B and C), upper bearing, middle bearing and lower bearing (indicated with D, E and F) of pump.

1.2. Can set the limit values of winding temperatures and bearing temperatures separately.

1.3. When any one of six-point temperatures exceeds the limit, or water enters into the motor, oil chamber or the junction box, the controller will display alarm.

1.4. At the same time when the temperature exceeds the limit or reaches the alarm limit, the corresponding relay closes contacts KJ and KS for external circuit to connect with indicator and alarm.

1.5. After the fault removal, only pressing the reset button on the front panel can remove the alarm. The rear panel has a reset terminal that is used to connect with the external reset button.

2. Supervising Mode

2.1. Show the temperatures at 6 points (hereinafter referred as six-point temperatures), including three-phase windings (indicated with A, B and C) and upper bearing, middle bearing and lower bearing (indicated with D, E and F) of pump.

2.2. Can set the limit values of winding temperatures and bearing temperatures separately.

2.3. When any one of six-point temperatures exceeds the limit, or water enters into the motor, oil chamber or the junction box, the controller will display alarm.

3. Functions

3.1. Display and review

3.2. With human-computer interface to display and review real-time and historical data and curves on multiple windows.

3.3. Alarm : Alarm with blinking display and dry contact output, for the over-temperatures at A/B/C winding and D/E/F bearing, and for the water entering in motor, oil chamber and junction box.

3.4. Control: If the temperature of motor exceeds limit, or water enters in, the relay will act according to the judging conditions.

3.5. Judging Rule of Relay Control

3.5.1 A/B/C winding temperature and D/E/F temperature are larger than the set value.

3.5.2. The water conductive resistances of motor and junction box are smaller than 51K Ω , and the water conductive resistance of oil chamber is smaller than 30K Ω .

3.5.3. Any one of conditions above will make the corresponding relay close contacts KJ, KS and ALM. Contacts KJ and KS act as the control interlocks, while contact ALM is used to connect with the external loudspeakers for alarm.

3.6. Parameter Setting

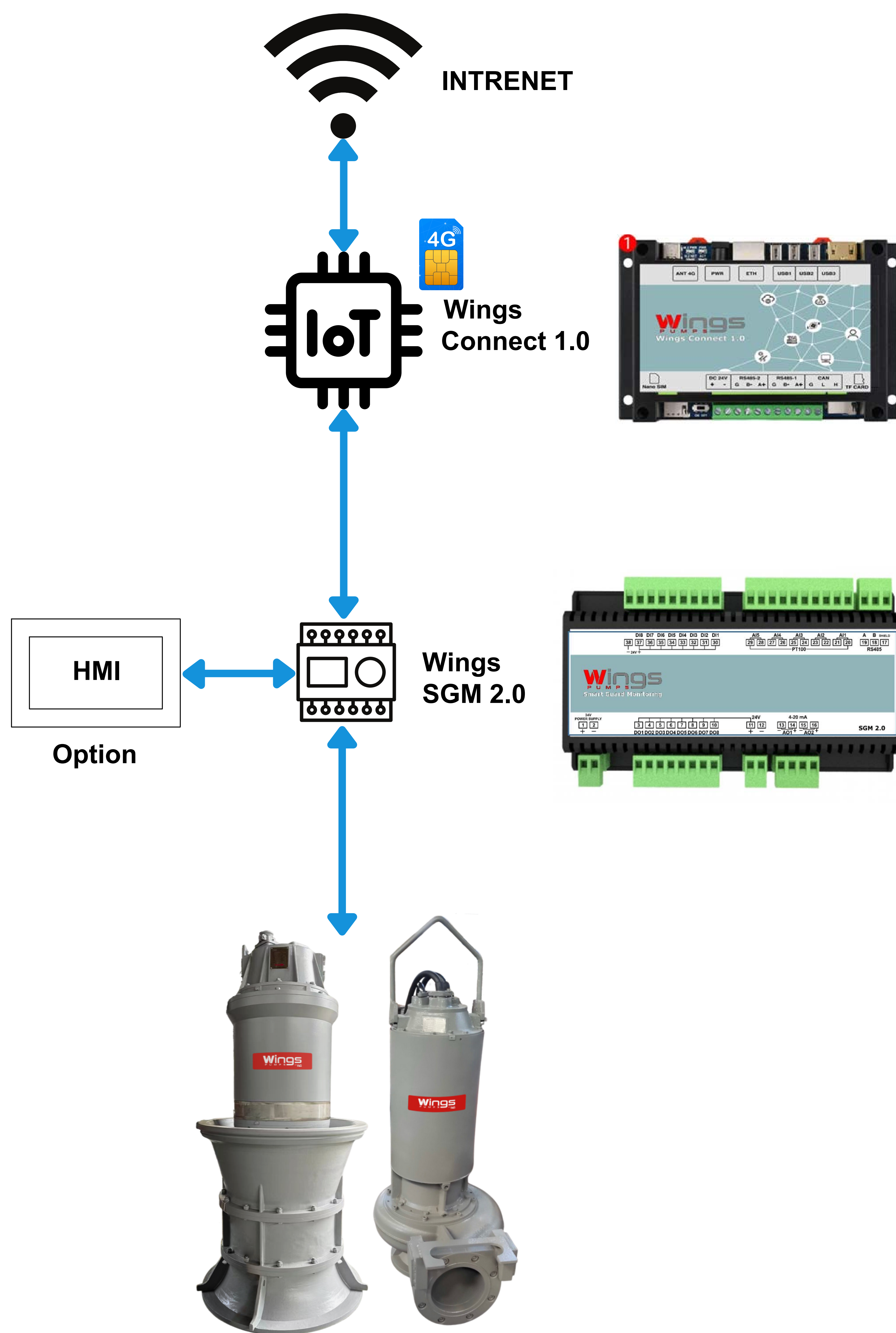
3.6.1. Set the parameters of local and remote instruments and set the alarm value.

3.7. Record : Record the data and events, such as the temperature, water-entering status, control output and running time, etc.

3.8. Display for current and voltage of each phase, current and voltage unbalance and power consumption.

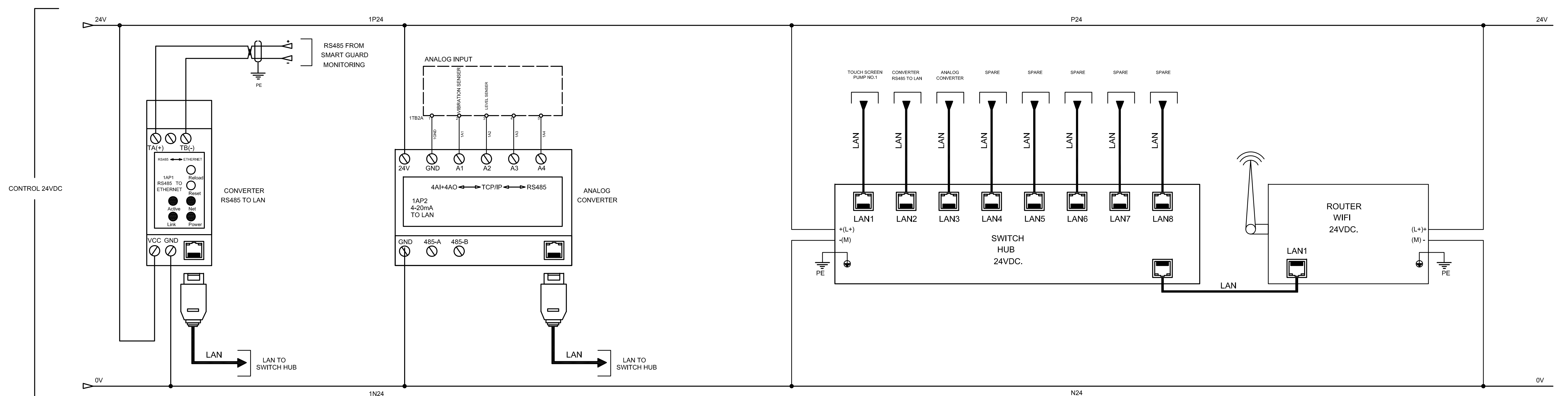
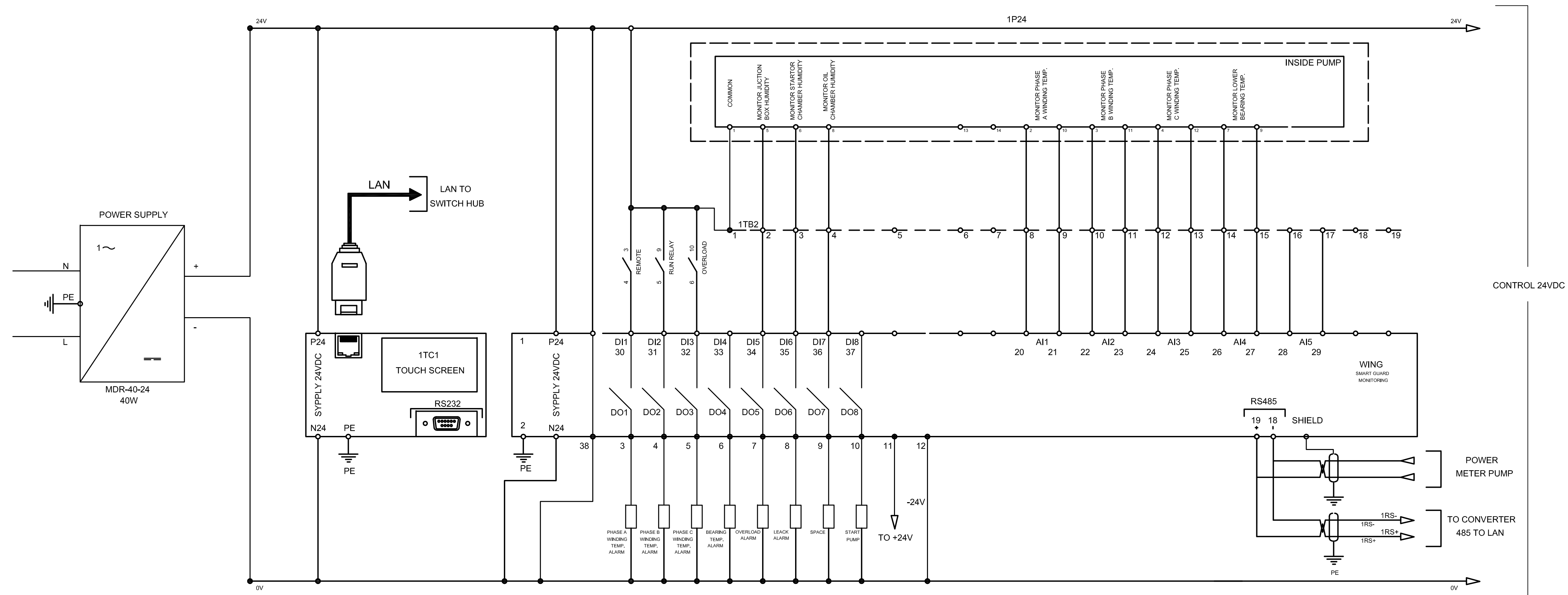
3.9. Display for Start and Running time.

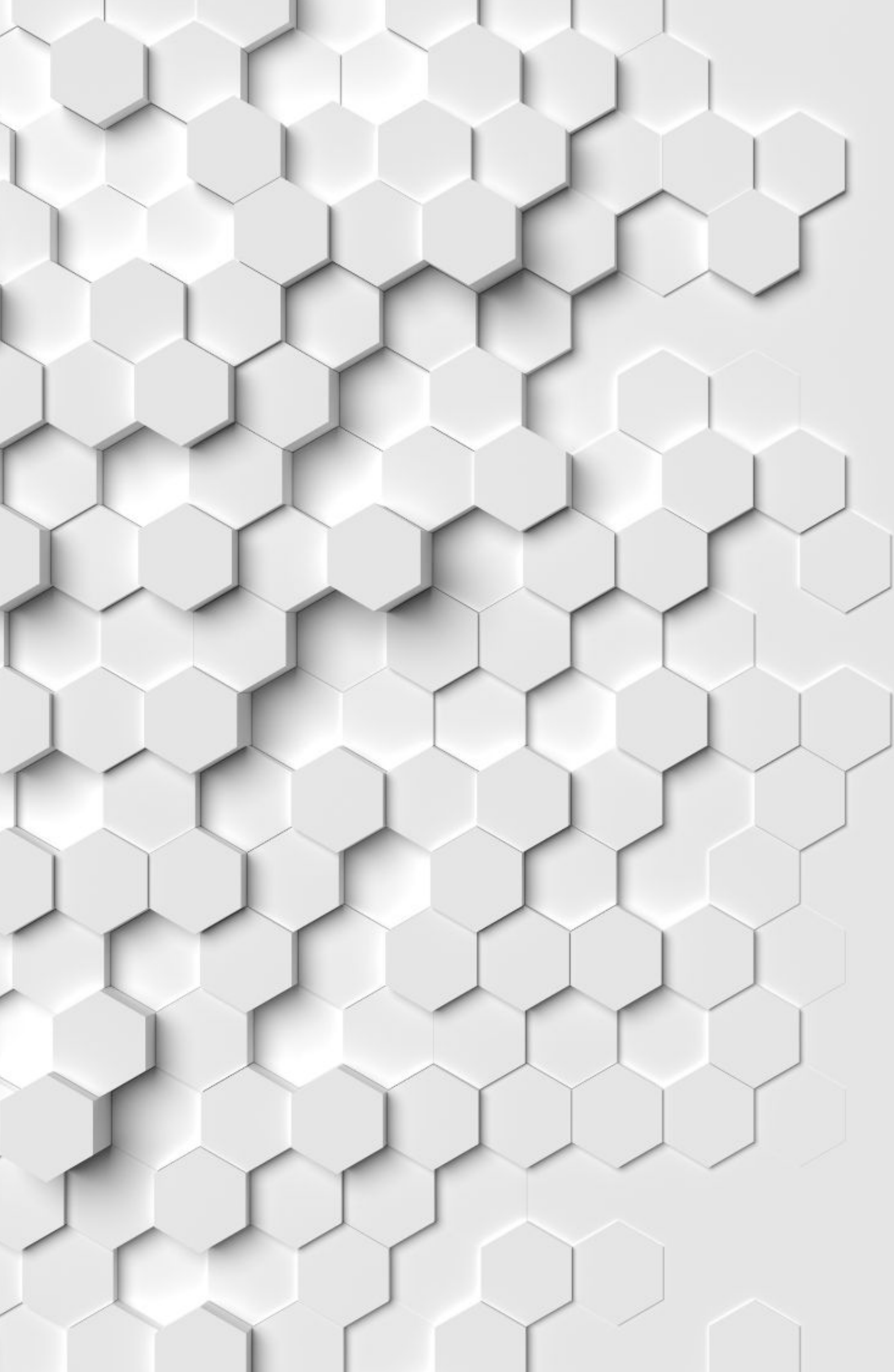
DIAGRAM WINGS SGM 2.0



DRAWING DIAGRAM

WINGS CONNECT 1.0 AND WINGS SGM 2.0





wings
P U M P S

CERTIFIED
ISO 9001
ISO 14001
ISO 45001
ISO 50001



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