PRODUCT CATALOG

– *Part of* **WASYS**

A WORLD OF POSSIBILITIES

ACOWA
INSTRUMENTS
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INSTRUMENTS
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TurTle

TurTle is a revolutionary pressure transmitter. TurTle is recognized by its robust design and is developed specifically for the water and sewerage branches. TurTle's unique measurement cell can be separated from the rustproof sensor tube. In this way the measurement cell can be replaced without having to replace the entire electrical installation, or in the case of a damaged cable, the measurement cell can be reused in a sensor tube.

TurTle's range of measurement is adjustable via a DIP switch on the rear of the measurement cell. It can measure in 3 ranges: 0-3mVs, 0-5mVs or 0-10 mVs - all with 4-20mA output signal. Furthermore it is possible to zero-calibrate the measurement cell by using a DIP switch.

TurTle can be delivered with cables in four standard lengths: 10m, 15m, 30m or 50m.

GoPLe

GoPLe is used for level measurement in drinking water and sewerage water systems.

GoPLe is synonymous with high reliability as well as stability in level measurements. It measures by using ceramic capacitive measurement principals, and upon submersion, converts the liquid level to a 4-20mA current envelope.

GoPLe is delivered in two measurement ranges: 0-3 mVs and 0-5 mVs, and comes with a fixed cable length of either a 10m or 25m PUR-cable.

Specific measurement range and cable length can be offered upon request.

mini-GoPLe

ACOWA mini-GoPLe is used for level measurement in water wells.

ACOWA mini-GoPLe equals high reliability and stability in level measurements. Signal from mini-GoPLe is standard 4-20mA but can be offered as both 0-10V DC, 0-5V DC or Modbus signal.

Mini-GoPle is a precision 2-wire transmitter with a silicon piezo-resistive measuring system and a sensor membrane in AISI316 stainless steel. Diameter of mini-GoPLe can be selected as 13mm, 16mm or 19mm. PUR-cable lengths are from 10m and up.

Individual measuring range and cable length can be offered on request.

FROG/mini-FROG

FROG and mini-FROG are standard float switches with a micro switch for either a Normally Open (NO) or a Normally Closed (NC) status signal.

FROG is delivered in versions with a 10m or 20m fixed-mounted high-flexibility PUR cable – and mini-FROG is delivered with a 5m PUR cable. A mounting bracket is included in both versions.

Both products are used as a high-water level alarm in pump stations, low water level alarm in clean water tanks, water on floor alarm, as well as a controlling switch for pumps among many other functions.

For FROG and mini-FROG a counterweight of 400 gr. can be provided.

TECNICAL SPECIFICATIONS:

Contact system	Microswitch
Voltage	Min. 5V DC / max. 250V AC
Max. rated current	6A Resistive, 3A inductive
Pressure range	200kPA
Tilting material	Polypropyleen (PP)
Cable material / Enclosure class	PUR / IP68
Max. operating temperature	+55°C
Certificate	CE
Cable length - FROG / mini-FROG	10m and 20m / 5m
Length of floating element - FROG / mini-FROG	140mm / 120mm
Largest diameter - FROG / mini-FROG	99mm / 65mm

DolpHin

DolpHin is an 80 GHz compact radar with built-in Bluetooth and 4/20 mA loop-powered signal. Due to its compact size and narrow measuring range, flexible installations are ensured without interferences.

DolpHin has a boot time of less than 10 seconds which makes it ideal for overflow detection when connected to equipment like the GEKKO battery-powered data logger. Also, DolpHin is suitable for measurements in areas with condensation, build-up, or airy solids due to its special radar microchip that enables detection of even the weakest signals.

DolpHin has a zero blanking zone which allows measuring ranges all the way up to the sensor. With a measurement accuracy of 2 mm, you can avoid expensive manual measurement methods.

To setup DolpHin using application based on Bluetooth® technology is quick and easy.

CaNaRy

The CaNaRy hydrogen sulphide measurer has been developed with a robust design for mounting in pump stations, building structures and similar.

CaNaRy is based upon a compact yet simple construction, where the measurement cell can be exchanged without requiring calibration.

CaNaRy can measure hydrogen sulphide in concentrations from 0-300ppm and transform this to a standard 4-20mA signal.

CaNaRy is factory-calibrated upon delivery and is ready for mounting. The measurement cell in CaNaRy does not require calibration during its entire lifetime, which is more than two years.

CaNaRy can be delivered with four different cable lengths - 10m, 15m, 30m or 50m.

PUMA

PUMA pump control is a universal compact single-pump controller with communication capabilities, managing both 1-phase and 3-phase pumps up to 12A (5.5KW).

PUMA measures well levels via a 4-20mA analog level meter, enabling automatic start and stop functions. Integrated features include flow- and capacity calculations and emergency control via a high-level float switch. It also measures current on all 3 phases, detects phase sequence, has 2 digital inputs for high-level alarms and 2 digital outputs for general alarms.

PUMA's two-part, impact-resistant IP65 housing, measuring 24cm wide, allows for easy mounting on walls, street cabinets, or other enclosures, with straightforward connections via bottom-mounted fittings, screw terminals, and spring clamps. For daily operation, PUMA offers a userfriendly 2.4" OLED display screen and 4 control buttons.

Communication options for PUMA include 4G, NB/IoT, or Ethernet with MODBUS protocol, integrating with AcowaHiVe or to the customer's own SCADA/SRO system.

PUMA TWIN

Building upon the design of PUMA pump control, PUMA TWIN offers enhanced functionality as it is a compact 2-pump control system with communication capabilities. This includes a built-in contactor for operating 2 pumps, each with a capacity of up to 5.5KW / 12Amps. In addition, PUMA TWIN has a unique feature for current measurement on all three phases for both pumps, ensuring that pumps disconnect in case of fault current.

Like PUMA, the PUMA TWIN offers standard functions for starting and stopping pumps with alternating operation, along with unique features such as capacity calculation, pump cycling, and deep pumping. Likewise, PUMA TWIN is operated through an intuitive 4-button interface on the front panel, with information displayed on a large 2.4" OLED display screen.

Communication options for PUMA TWIN - like the PUMA, include 4G, NB-IoT, or Ethernet with the MODBUS protocol. Moreover, configuration is easy using ACOWA-ZOO via wireless communication or locally via USB cable.
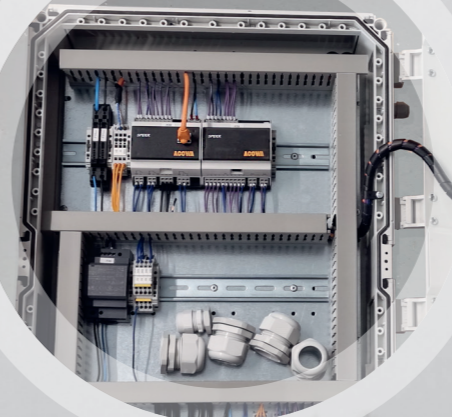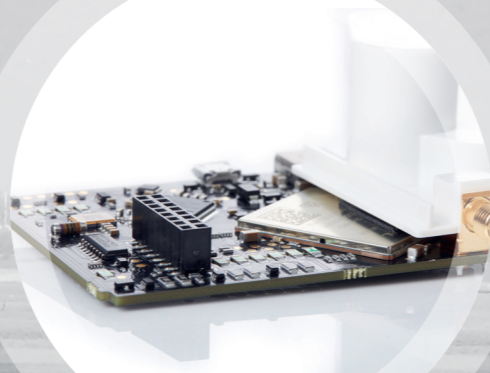
SPIDER

SPIDER is a universal RTU-device with standard functions for:
- Pump control
- Data gathering
- Alarm management
- Ground water management

SPIDER is produced and developed in Denmark. The hardware and software design is based upon many years of experience with SRO components. SPIDER complies with all specifications for electronic components that can be placed in demanding environments.

SPIDER is a compact unit for mounting on a DIN rail. It is delivered in a standard version with GSM/GPRS or 4G modem and without a display. The enhancement of SPIDER is by way of modules and can be customized for specific applications.

SPIDER I/O-modul

If several signals need to be connected to a SPIDER pump management system, then the SPIDER I/O expansion module can be used. By using this module, the SPIDER pump management system becomes even more flexible and can gather several operation and alarm signals.

When the SPIDER I/O module is connected to the SPIDER pump management system, the status of the analog and digital inputs can be read from the upper PCB where indicator diodes are mounted. This provides the user with a good overview of the operation and testing of the module.

The SPIDER I/O module includes 8 digital inputs and 2 analog inputs in the 4-20mA range.

EAGLE II HMI

The visualization of operating data and parameters requires a comprehensible display.

EAGLE HMI is designed for modern pump stations where important data must be easily accessible and comprehensible. EAGLE HMI is built upon many years of experience with HMI designs that are easy to use and provide a good overview of the process.

The EAGLE HMI display has a 7" widescreen format with high resolution, touch-sensitivity and color, as well as good background lighting. These parameters ensure that EAGLE HMI always can be used, irrespective of weather conditions and temperature. EAGLE HMI includes communication either by serial RS485 or Ethernet TCP/IP.

EAGLE HMI includes a driver for 200 known products, this including SPIDER, Siemens S7 PLC, Allen-Bradley PLC, Schneider Modicon PLC and more. By using EAGLE HMI together with the SPIDER I/O-module, it is possible to collect data from frequency converters and other instruments with modbus communication.

HMI features:
· Easy management of pumps
· Alarm list with start and end times
· Simultaneous graphic display of multiple analog signals
· Access to pump operational data
· Easy access to configuration parameters

GEKKO

GEKKO data logger has a robust industrial design with an IP-67 classification. It can be powered by 2 lithium batteries or an external 12-30V DC power supply.

Designed for use in wastewater and water supply applications, the GEKKO can gather and log various types of data, e.g. used for H2S detection, level measurement, overflow registrations and for registration of precipitation events.

The GEKKO can communicate via standard MODBUS TCP/IP. Communication is handled via the built-in 4G modem, NB-IoT or SigFox - integrated into its own PCB. This enables for future communication upgrades without without the need to replace the entire data logger.

The device includes a USB interface for programming or downloading logs to a PC and has a logging capacity of 16,000 measurements.

GEKKO is delivered with 2 analog inputs 0/4-20mA, or 4 digital inputs, where 2 of these can be configured as 0-10V inputs. Furthermore, there is the possibility for RS485 MODBUS communication with external units. Configuration of GEKKO can be done using AcowaZoo, a free PC program.
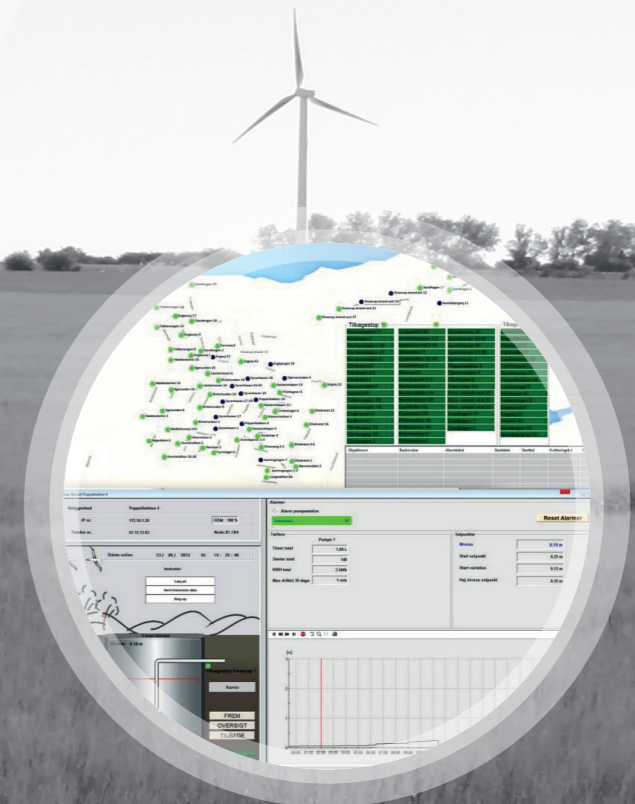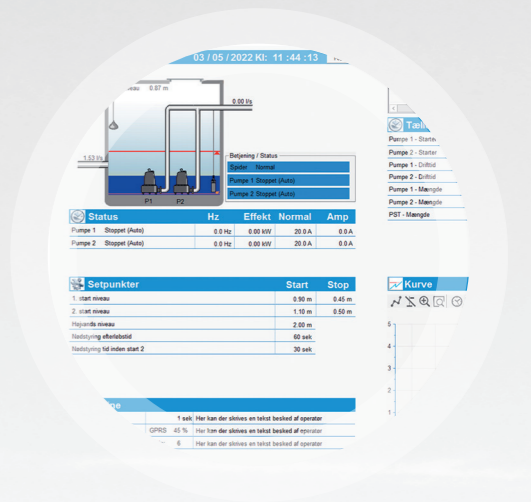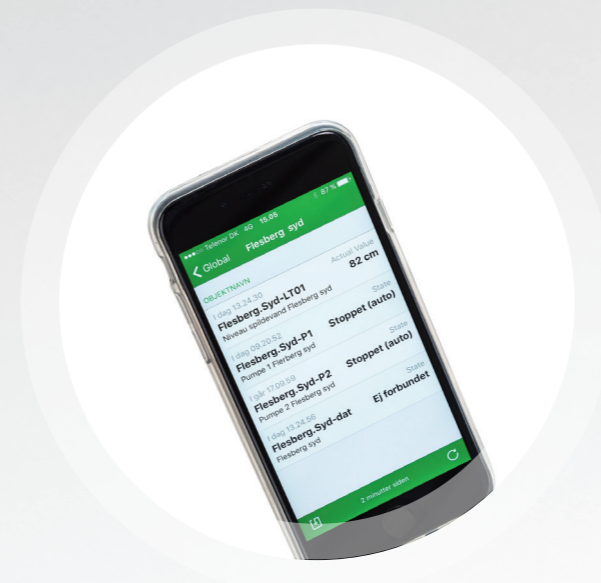
FIREFLY

FireFly is designed to use as a simple alarm device according to the term "The local red the alarm lamp has become intelligent".

FireFly is an intelligent battery-powered or fixed 3V DC alarm unit intelligent alarm unit that can replace the existing red alarm light, so pump alarms and high-water lashes are sent directly to the SRO system via Sigfox communication.

FireFly comes with 2 parts. digital inputs, plus 1 pc. analog input 0-10V DC, which can be used to measure current pump current, as well as provide the number of start and run times if a coil is connected.

FireFly comes with 5 years of Sigfox subscription and batteries - easy to install.

SCADA

ACOWA SCADA is developed in cooperation with Schneider Electric and consists of 6 standard packages. The system is an object-oriented SCADA system that can communicate with over 90 different hardware manufacturers.

ACOWA SCADA is offered in packages of 200, 300, 400, 600, 1000 or 2000 objects. It is a single user system with 2 standard drivers. If alarm software - Notifier - is desired, this can be purchased as well.

An APP has been developed for ACOWA SCADA, enabling management of pumps, graphs and alarms via smartphone or tablet.

SCADA / SRO

IGSS

ABB 800xA

S2 iFIX

ACOWA hiVe

VISUALIZATION AND REPORTING

COMMUNICATION

GEKKO

ACOWA

Acowa HiVe

Acowa HiVe is a comprehensive program that merges both data processing and visualization capabilities. It communicate directly with ACOWA units and can convert existing historical data from the user's own SCADA system, producing valid flow calculations across all pump stations and overflows.

These valid flow calculations can then provide the user with the following:

· Capacity calculations at all existing pump stations with historical data
· Inlet profiles at all existing pump stations with historical data
· Overflow calculations for all existing pump stations and overflow structures with historical data
· Detection of extraneous water at existing pumping stations with historical data, both direct and indirect diversion.

Acowa HiVe

One of the key features about Acowa HiVe, is its robust visualization platform, which offers users a customizable and intuitive interface.

It visualizes all collected information about pump wells, including capacity calculations and inlet flow, precipitation data, hydrogen sulphide- and level measurement as well as extraneous water detection - presenting these in a userfriendly, custom design. Acowa HiVe is NIS 2 compliant and version controlled.

In addition, Acowa HiVe simplifies reporting, allowing for user-friendly export of data in CSV format. This includes comprehensive reports on key metrics such as detection of extraneous water. By compiling data into accurate, timely, and actionable reports, Acowa HiVe enhances water management and decision-making.

ACCESSORIES

There are many accessories available for the ACOWA products which enables ACOWA product to be even more flexible.

These accessories include antennae for SPIDER, GEKKO and PUMA, current coils for SPIDER pump management, as well as counterweights for FROG. It is also possible to connect an energy meter via MODBUS to SPIDER.

About ACOWA

ACOWA was established in 2014 by people with vast experience in the water and sewerage branch.

ACOWA has its headquarters on Samsoe, but components are distributed worldwide from its stock located in Roskilde.

Right from the beginning ACOWA has had a great focus on developing high-quality and stable products - with sustainability in mind. All ACOWA products are designed, developed and produced in Denmark, and a substantial part of the development takes place in a close dialogue with the customer.

This is what we call **DANISH INNOVATION, DESIGN AND QUALITY**

Notes

FUTURE-ENSURED INSTRUMENTATION

The mission for ACOWA Instruments is to deliver quality products for instrumentation - based upon that latest technology and equipped with both advanced and tested functions. If you choose an ACOWA product, you choose a future-ensured product.

Our competent developers are constantly monitoring trends - ensuring that all products bearing the ACOWA Instruments name are amongst the best in the market. If it does not function then it is not an ACOWA product.

All ACOWA products - including hardware and software - are developed and produced in Denmark. Furthermore, all development takes place in close dialogue with our customers.

| 3 SUNDHED OG TRIVSEL | 8 ANSTÆNDIGE JOBS OG ØKONOMISK VÆKST | 11 BÆREDYGTIGE BYER OG LOKALSAMFUND | 12 ANSVARLIGT FORBRUG OG PRODUKTION | 13 KLIMA- INDSATS |

SUSTAINABLE DEVELOPMENT GOALS

As ACOWA is a Danish company that pays taxes in Denmark, we contribute to the Danish welfare state with jobs and taxes. We also employ a number of people through our Danish subcontractors, who exclusively produce ACOWA products.

All our products are developed and produced in Denmark. Therefore, the overall climate footprint is lower than that of imported products. This includes CO_2 emissions and transport costs. Also, as production in Denmark is more expensive than other parts of the world, we focus on optimisation and waste removal.

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