Water Business Unit, Municipal Water

Sulzer Control & Monitoring Product Portfolio

Jörgen Jäger | June 2014

Control & Monitoring Product Portfolio

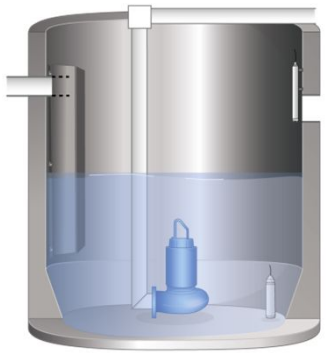
- Pump Controllers (**PC**)
- Equipment Controllers (**EC**)
- Control Panels (**CP**)
- Measuring Devices (**MD**)
- Control Accessories (**CA**)
- Alarm Transceiver (**AT**)
- Control Software
- C&M Services (**CMS**)

Pump Controller
Type ABS PC 111 and ABS PC 211

SULZER

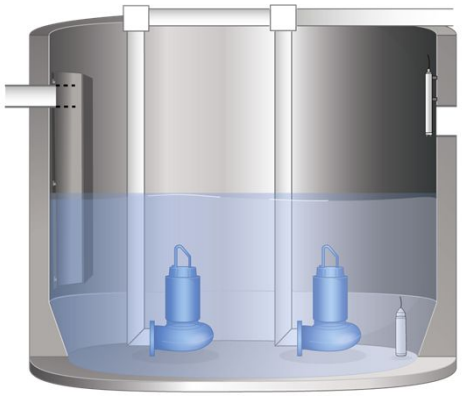
ABS PC 111, 1-Pump controller

- Start / Stop based on floats or level sensor
- Hand-0-Auto switch
- Easy setting via turn-knob
- Built-in current transformer
- Built-in Moisture & Temperature monitoring
- Built-in Battery Charger & Buzzer

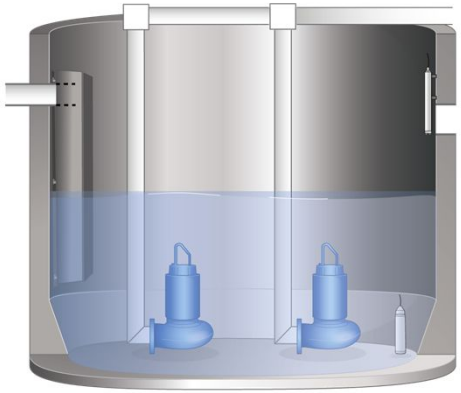


ABS PC 211, 2-Pump controller

- Start / Stop based on floats or level sensor
- Hand-0-Auto switch
- Easy setting via turn-knob
- Built-in current transformer
- Built-in Moisture & Temperature monitoring
- Built-in Battery Charger & Buzzer



Main pumpstation control functionality



Pumps

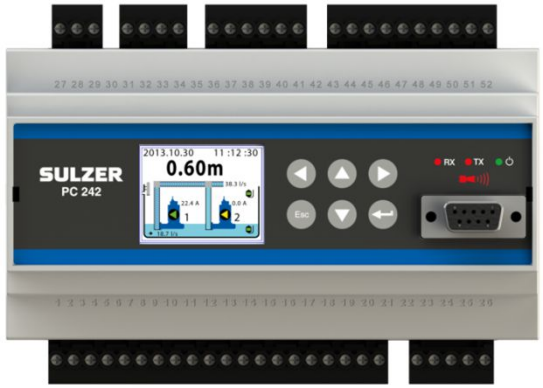
- Start / Stop based on floats or mA signal
- Dry run protection
- Max runtime check
- Exercise run
- Auto reverse of pump (ABS PC 111)

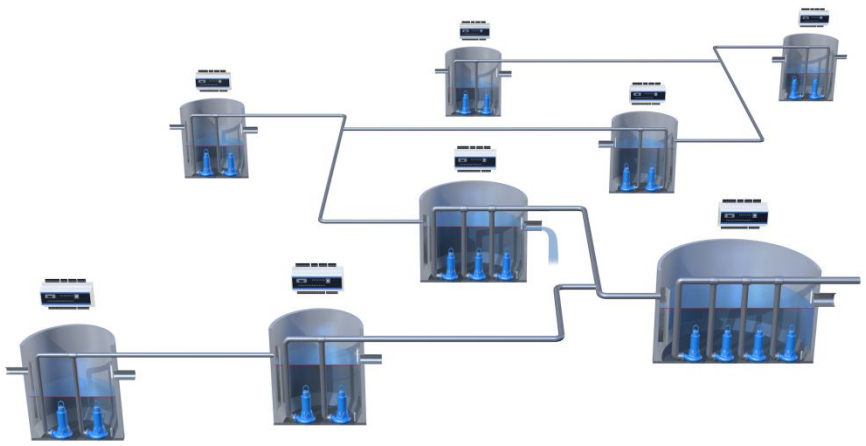
Sump

- Max number of pumps running
- Timer based back-up run of pump via highlevel float
- Built-in dry run protection

Pump Controller
Type ABS PC 242

Has what it takes!





Considerations:

- When, Why and How to start the pump/pumps

Value

- Reduced energy costs
- Reduced tankering costs
- Reduced maintenance costs
- Reduced risk for overflows
- More even flow to treatment plant
- Reduced electrical and hydraulic peak load on the network

Main pump station monitoring functionality ABS PC 242

In- / outflow, pump capacity and overflow calculation!

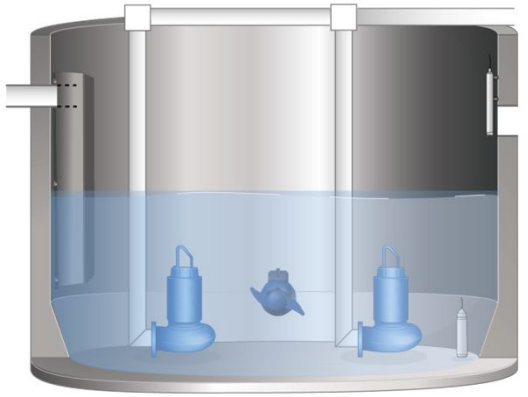
Function

- Calculate the Inflow using level change per time unit times surface area
- Calculate the pump capacity every time one pump runs by it self
- Overflow calculation based on levelsignal with trigg of measurment.
  Overflow = $h^{e1}c1 + h^{e2}c2$ [m^3/s]

Value

- Avoid wasting energy using pumps with degraded efficiency
- Service pump before breakdown
- Service can be planned to be perfomed at normal working hours
- No external flow meter required
- Accurate overflow measurment

Main pump station control functionality ABS PC 242



Pumps

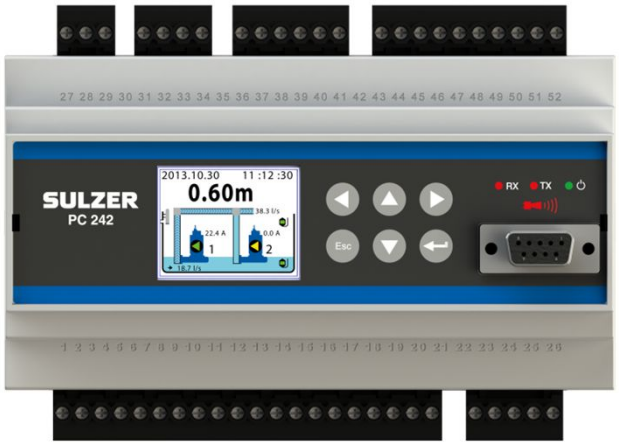
- Variable start / stop levels per day and night in a week
- Alternative stop level
- Empty pump station before “rush hour”
- Start / Stop based on speed of level change
- Ratio start of pumps
- Random start levels
- Auto reverse of pump
- Max runtime check
- Cyclic motion timer and more
- Remote blocking/unblocking of pump/s via communication .....

Sump

- Max number of pumps running
- Mixer control logic
- Either Flush valve, Sprinkler control logic or Drain pump control
- Level signal check via high level float
- Timer based back-up run of pump via high level float

Pump Controller
Type ABS PC 242

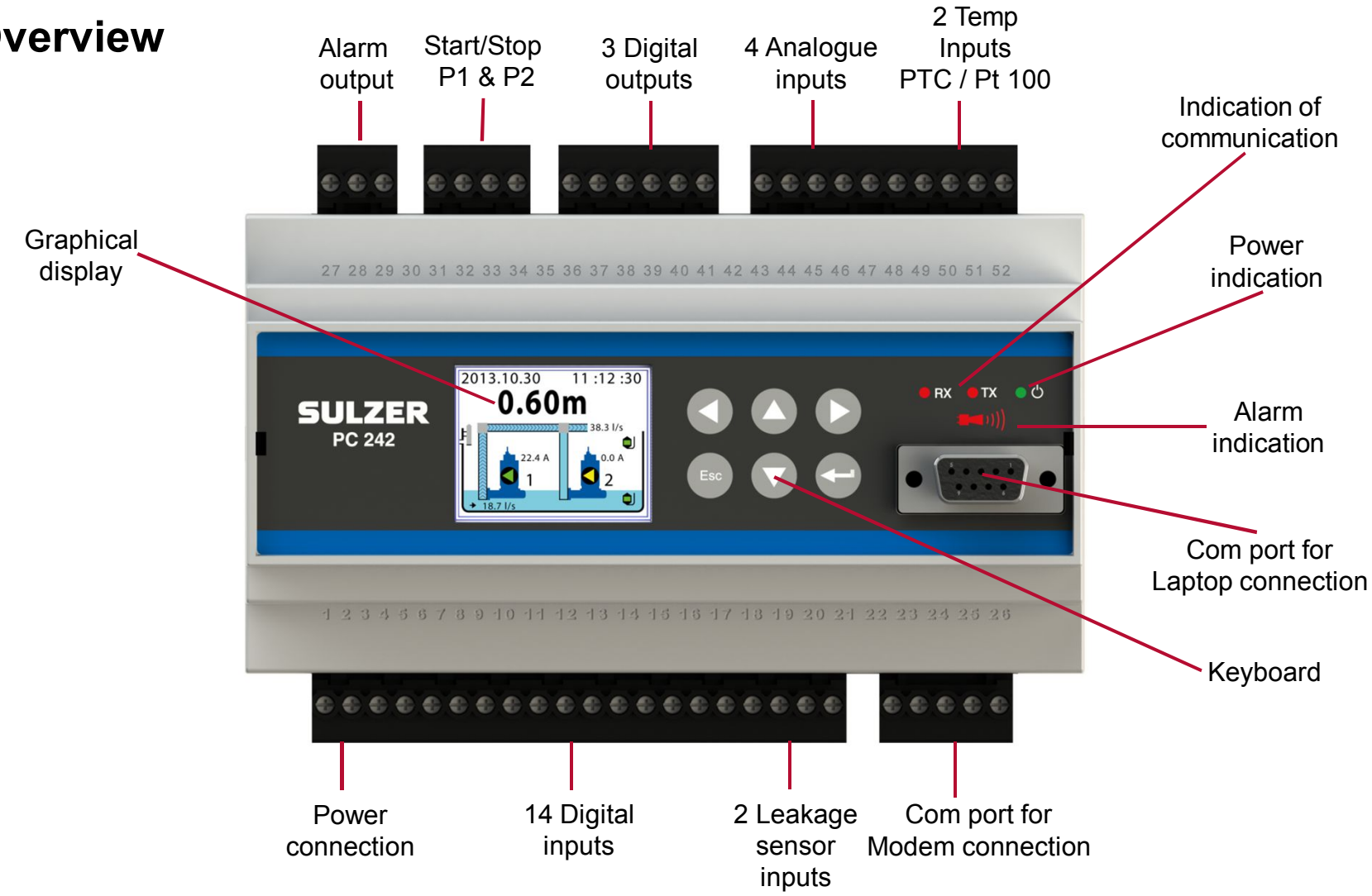
Technical data



Ambient operation temp.	-20 to +70 °C (-4 to +158 °F)
Degree of protection	IP 20
Mounting	DIN Rail 35 mm
Dimension HxWxD:	86 x 160 x 60 mm
	(3.39 x 6.30 x 2.36 inch)
Power supply	9-34 VDC
Digital inputs	Nb 14, Positive logic, 5-34 VDC,
Digital outputs Max load	Nb 6, Positive logic
Analogue inputs	Nb 4, 0/4 – 20 mA
	Nb 2, Pt 100
RS 232	One panel mounted for service
	One for telemetry
CAN	Field bus of CAN type
Protocol	Modbus RTU / TCP & Comli

Pump Controller
Type ABS PC 242

Overview



Pump Controller
Type ABS PC 441

- ABS PC 441 1-4 Pump Monitoring and / or Controller
- ABS CA 511 Graphical Operator Interface
- ABS CA 441 Moisture Monitoring Module
- ABS CA 442 Temperature Monitoring Module
- ABS CA 443 Motor and Supply Power Monitoring Module
- ABS CA 781 Output Expansion Module
- ABS CA 622 RS 485 Communi-cation module.
  Release 2014 Q3,
  requires firmware upgrade
  of ABS PC 441

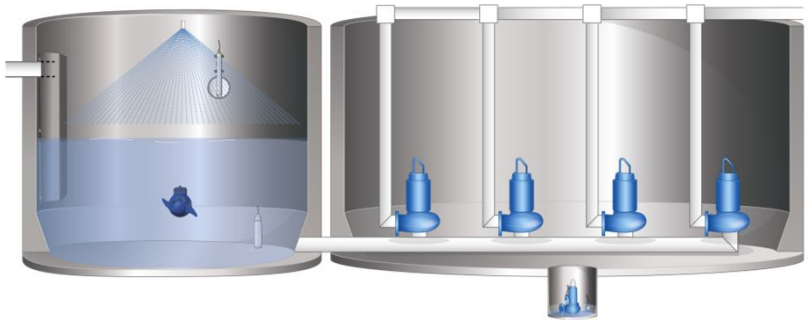
Operator Panel ABS CA 511

ABS CA 622 | ABS PC 441 1-4 Pump Monitoring and / or Controller | ABS CA 781 | ABS CA 441 | ABS CA 442 | ABS CA 443

ABS PC 441 Main Pumping Station Control Functionality

Pumps

- Variable start/stop levels per day and night in a week
- Alternative stop level
- Empty pumping station before “rush hour”
- Start/Stop based on speed of level change
- Ratio start of pumps
- Random start levels
- Smart VFD control
- Auto reverse of pump
- Max runtime check
- Cyclic motion timer
- Remote blocking of pump via communication

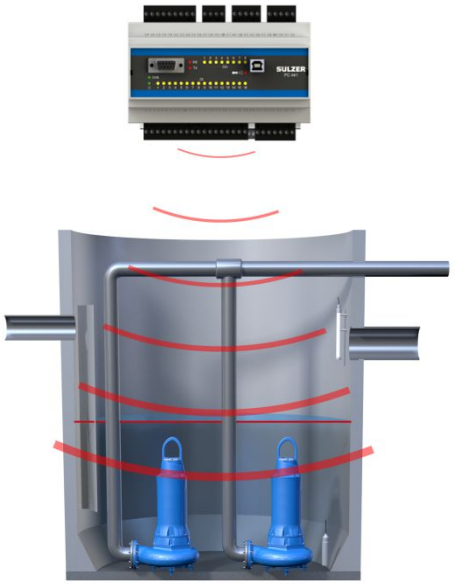


Sump

- Max number of pumps running
- Mixer control logic
- Flush valve or sprinkler control logic
- Drain pump monitoring
- Level signal check via high level float
- Timer based back-up run of pump via high level float
- Sump level indication calculated from sump bottom or sea level

ABS PC 441 Pumping Station Surveillance

In-/outflow and pump capacity calculation!



Function

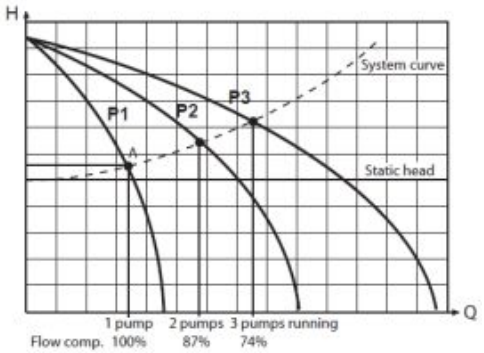
- Calculate the inflow using level change per time unit times surface area
- Calculate the pump capacity every time one pump runs by itself with alarm handling for low pump capacity
- Pump curves, rpm compensation and system data can be entered for more exact calculation

Value

- Avoid wasting energy using pumps with degraded efficiency
- Service pump before breakdown
- Service can be planned to occur during normal working hours
- No external flow meter required

Pump & System Curves

- Pump curves can be entered
- The System curve is calculated from the online measurement together with given data for Static Head, Total Head and Flow at given Duty Point



ABS PC 441 Smarter Control Algorithms

Smart control functions that have an impact on the whole system!

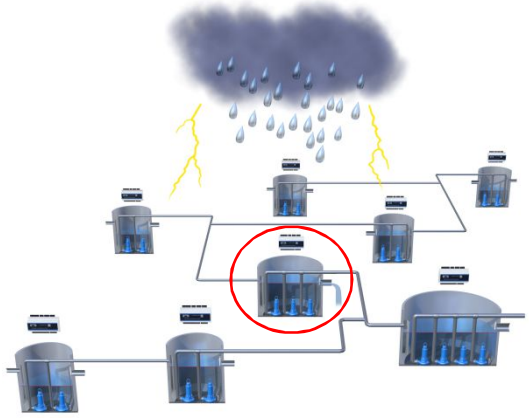
Examples of standard control possibilities included

- Variable start/stop levels per day and night in a week
- Empty pumping station before “rush hour”
- Start/Stop based on speed of level change
- Ratio start of pumps
- Smart VFD control
- Auto reverse of pump
- Mixer control

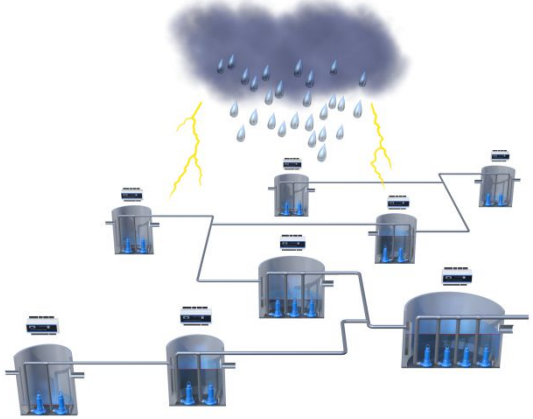
Value

- Lower energy costs
- Reduced risk of overflow
- Reduced risk of blockage
- Reduced maintenance need

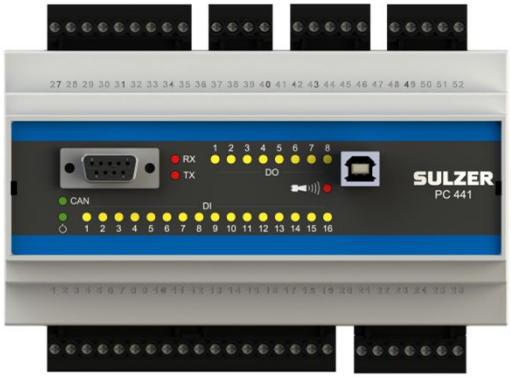
Control based on standard Start/Stop levels



Control based on standard start/stop levels and speed of level change



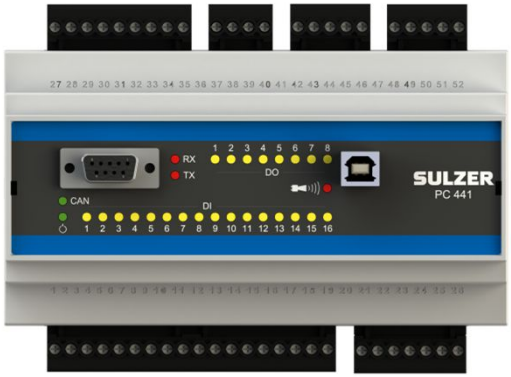
Pump Controller
Type ABS PC 441 Technical specifications



Technical specifications

Ambient operation temp.	-20 to +70 °C (-4 to +158 °F)
Ambient storage temp.	-30 to +80 °C (-22 to +176 °F)
Degree of protection	IP 20
Housing material	PPO and PC Mounting DIN Rail 35 mm
Dimension HxWxD:	86 x 160 x 60 mm (3.39 x 6.30 x 2.36 inch)
Humidity	0-95 % RH non condensing
Power supply	9-34 VDC
Power consumption	Min (no IO load), 100 mA@12 V 60 mA@24 V Max 250 mA@12 V, 200 mA@24 V (excluding DO load)
CPU	LPC 2368 from NXP 32 bit ARM7 TDMI-S
Program memory	512 Kbytes embedded flash
RAM memory	32 Kbyte embedded RAM
NV memory	1 Mbyte serial flash

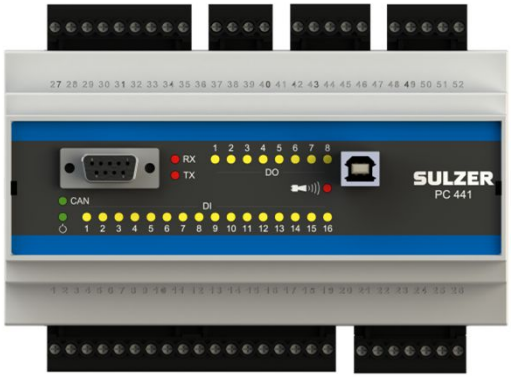
Pump Controller
Type ABS PC 441 Technical specifications



Technical specifications cont.

Digital inputs	Nb 16, Positive logic, 5-34 VDC, trig level ~ 4 VDC
Max pulse rate D.in 13-16	500 Hz (pulse channels)
Digital outputs Max load	Nb 8, Positive logic. Sourcing from power supply 1A/output. Max total current for all 8 outputs together is 4 A.
Analogue inputs	Nb 5, 0/4 – 20 mA
Input resistance	136 ohm, PTC protected
Resolution	Ain 1: 15 bit (level sensor) Ain 2-5: 10 bits
Analogue outputs	Nb 2, 0/4 – 20 mA Sourcing from power supply 500 Ohm@12 VDC 1100 Ohm@24 VDC
Resolution	15 bits

Pump Controller
Type ABS PC 441 Technical specifications



Technical specifications cont.

Communication

USB	One panel mounted USB2 type B port for status and configuration using AquaProg
RS 232	One panel mounted for service One for telemetry
CAN	Field bus of CAN type, max 250 meter cable length using same earth potential
Protocol	Modbus RTU, TCP & Comli
Baudrate in Baud full duplex	300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600 & 115200
Parity	None, Odd & Even
Handshaking	On / Off
protocol Id	1 - 255
Station Id	1 - 65535
GSM	PIN & PUK code

SMSC service center number
Server TCP port & IP Nb
GPRS APN

Control System
Type ABS PCx

Supports the control of 1-16 Pumps in 1-4 Pits

ABS PCx is a powerful, technically-advanced control system enabling scalable, flexible, and modular system buildup. It is suitable for applications such as small and medium-sized sewage treatment plants, water treatment plants, booster pressure stations, and sewage pumping stations.

- Modular pump controller for up to 16 pumps divided over 4 pits
- Many pre-defined control functions
- Advanced flow calculations
- Advanced communication capabilities
- Modular and expandable IO system:
  5 times ABS PCxp with 16 Di, 8 Do, 4 Ai, 2 Ao and one RS 232/485 per unit
- Extensive log capability
- Advanced VFD control software
- All parameters can be configured locally or remotely
- Possibility to build up own logic functions etc.

Control Panels

ABS CP 112/212

ABS CP 111 / CP 211

- Compact control panel for one or two pumps
- Direct connection of pumps up to 5,5 kW (12A)
- 3-phase & Single-phase versions

ABS CP 116/216

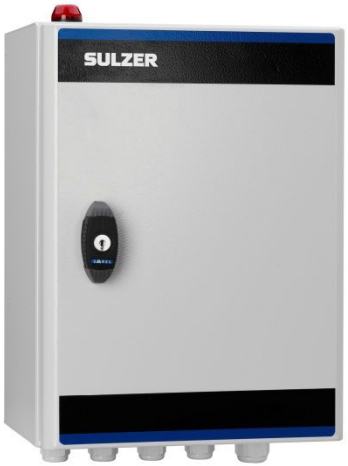
ABS CP 116 / CP 216

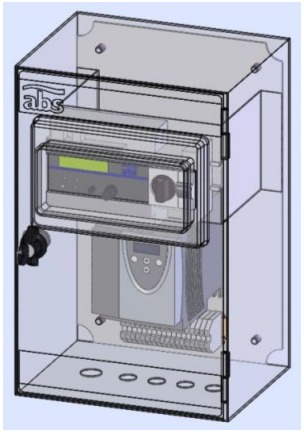
- Compact control panel for one or two pumps
- Direct connect of pumps up to 5,5 KW (12A)
- Optional GSM/GPRS modem ABS CA 522 allowing communication with AquaWeb or SCADA system using Comli or Modbus RTU & TCP protocol.

ABS CP 151 & CP 153
CP 253 & CP 254
Included in the Sanimat & Synconta

Control Panels

ABS CP 114





ABS CP 114 is a compact control panel for single pump applications using a 3-phase pump on a 1-phase main.

1 pump version with variable frequency drive (VFD) up to max. 7,5A or 10A without Ex-approval.

ABS CP 221

Standard ABS Control Panel
Based on ABS PC 242

Standard:

- DOL 3 – 12 A
- Soft start 8 – 32 A
- Soft start 11 - 41 A

Options

- Mixer Control DOL 3–12 A
- Ex protection for pumps (and mixer)
- Earth leakage breaker pumps (and mixer)

Pressure sensors

ABS MD 126

Measuring Range	Max. Overpressure	Cable Length
0-2,5 mH_2O	4 bar	10 m
0-2,5 mH_2O	4 bar	30 m
0-5 mH_2O	8 bar	10 m
0-10 mH_2O	8 bar	15 m

ABS MD 127

Measuring Range	Max. Overpressure	Cable Length
0-1 mH_2O	4 bar	10 m
0-2 mH_2O	6 bar	10 & 25 m
0-4 mH_2O	6 bar	10 & 25 m
0-10 mH_2O	10 bar	15 & 25 m
0-20 mH_2O	18 bar	25 m
0-40 mH_2O	25 bar	45 m

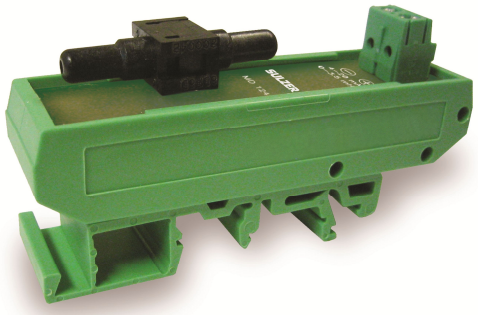
Technical specifications

ABS MD 126		**ABS MD 127**
Output signal	2-wire, 4-20 mA proportional to the media	2-wire, 4-20 mA proportional to the media
Supply	9-30 VDC	9-30 VDC
Inaccuracy	≤ ±0,3 % F.S. (Sum of nonlinearity, hysteresis & repeatability)	≤ ±0,2 % F.S. (Sum of nonlinearity, hysteresis & repeatability)
Ambient temp.	-20 to +80 °C	-20 to +60 °C

Measuring Devices

ABS MD 124

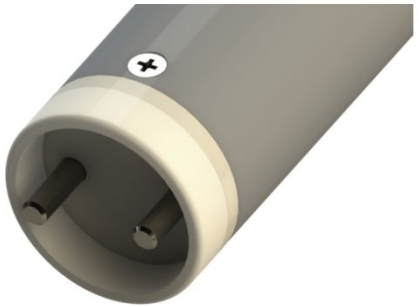
DIN rail mounted 2-wire pressure sensor



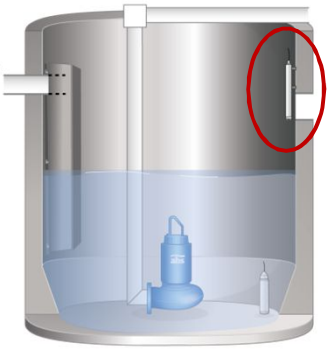
- Piezoresistive full bridge
- Temperature compensation between 0 and +50 ºC
- 0-3.5 mH_2O measuring range

ABS MD 131 (KV)

Conductive level switch

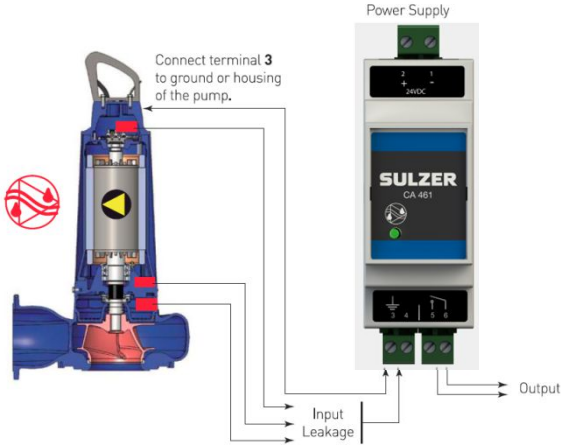


- Sensitivity 25 µS-750 µS
- Transistor output, NPN and PNP
- Easy to mount
- Submersible, IP 68
- Large temperature range -20 ºC to +60 ºC
- Handles wastewater



Control Accessories
Leakage Relay Type ABS CA 461

Leakage relay ABS CA 461

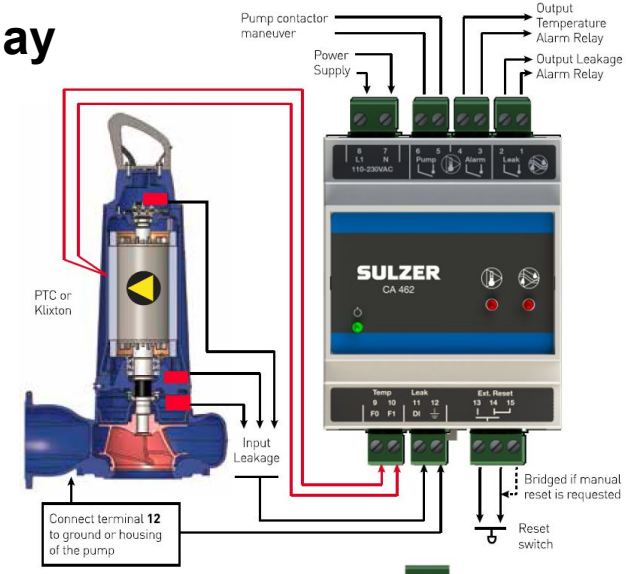


Technical data

Leakage detection threshold		< 100k ohm
Alarm on delay		10 seconds
Ambient operating temperature		–20 to +70 °C (–4 to +158 °F)
Ambient storage temperature		–30 to +80 °C (–22 to +176 °F)
Degree of protection		IP 20, NEMA: Type 1
Housing material		PPO and PC
Mounting		DIN Rail 35 mm
Installation category		CAT II
Pollution degree		2
Flame rate		V0 (E45329)
Humidity		0–95% RH non-condensing
Dimensions		H x W x D: 108 x 35 x 58 mm (4.25 x 1.38 x 2.28 in.)
Power supply	***16907003***	110-230 VAC (Europe only)
	16907010	110-230 VAC, CSA-approved
	16907004	18 - 36 VDC, SELV or Class 2 (Europe only)
	16907011	18 - 36 VDC, SELV or Class 2, CSA-approved
Fuse		Max 10 A
Terminal wire size		Use copper (Cu) wire only. 0.2 - 2.5 mm^2 flexible core, strippped length 8 mm.
Terminal tightening torque		0.56 - 0.79 Nm (5 - 7 lbs-in)
Power consumption		< 2 W
Max load output relay		250 VAC 3 Ampere
Altitude		Max 2000 MASL or 6562 ft. AMSL
Compliance		CE

Control Accessories
Temp. And Leakage Relay Type ABS CA 462

Temp. and Leakage Relay ABS CA 462



Technical data

Leakage detection threshold (±10%)		< 100 kohm
Temperature input threshold (±10%)		> 3.3 kohm
Alarm delay (Leakage / Temp.)		10 seconds
Ambient operating temperature		–20 to +70 °C (–4 to +158 °F)
Ambient storage temperature		–30 to +80 °C (–22 to +176 °F)
Degree of protection		IP 20, NEMA: Type1
Housing material		PPO and PC
Mounting		DIN Rail 35mm
Installation Category		CAT II
Pollution Degree		2
Flame Rate		V0 (E45329)
Humidity		0–95% RH non-condensing
Dimensions		86 x 70 x 58 mm (3.39 x 2.76 x 2.28 inch)
Power supply	***16907006***	110-230 VAC
	16907007	18-36 VDC SELV or Class 2
Fuse		Max 10 A
Terminal wire size		Use copper (Cu) wire only. 0.2 - 2.5 mm^2 flexible core, stripped length 8mm.
Terminal tightening torque		0.56 - 0.79 Nm (5 -7 lbs-in)
Power consumption		< 5 W
Max load output relay		250 VAC 3 Ampere
Altitude		Max 2000 MASL or 6562 ft. AMSL
Max load output Pump blocking relay		250 VAC 6 Ampere

Control Accessories
Graphical Operator Interface Type ABS CA 511

Only for use with ABS PC 441

Technical specifications

Ambient operation temp.	-20 to +70 °C (-4 to +158 °F)
Ambient storage temp.	-30 to +80 °C (-22 to +176 °F)
Degree of protection	IP 65 Panel outside / IP 20 inside
Dimension HxW:	
Outer	244 x 120 mm (9.61 x 4.72 inch)
Hole cut out	220 x 107 mm (8.66 x 4.21 inch)
Building depth	25 mm (0.98 inch)
Humidity	0-95 % RH non condensing
Power supply	9-34 VDC
Power consumption	160 mA@12VDC, 80 mA@24VDC Max 250 mA
Display	4.3 inch color TFT
Resolution	480*272 Dots
Backlight	LED
Brightness, average	420 cd/m^2 or 39 cd/ft^2
Response time, typical	36 ms
Viewing angle	45-50 degrees
Keyboard	28 keys
Led indicators	2
Communication	Field bus of CAN type, max 250 meter or 820 ft. cable length using same earth potential

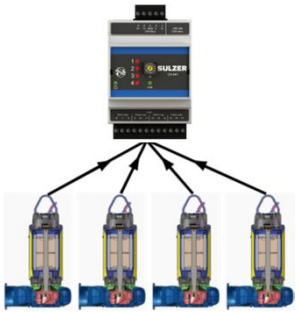
Control Accessories
Moisture Monitoring Module Type ABS CA 441

Only for use with ABS PC 441

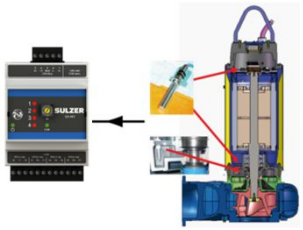
Technical specifications

Ambient operation temp.	-20 to +70 ºC (-4 to +158 ºF)
Ambient storage temp.	-30 to +80 ºC (-22 to +176 ºF)
Degree of protection	IP 20
Housing material	PPO and PC
	Mounting DIN Rail 35 mm
Dimension HxWxD:	86 x 70 x 58 mm
	(3.39 x 2.76 x 2.28 inch)
Humidity	0-95 % RH non condensing
Power supply	9-34 VDC
Power consumption	152 mA@12V VDC ≥ 625 mW
Inputs	0-10 kOhm or 0-220 kOhm
	(Can be set individually per input)
Communication	Field bus of CAN type, max 250 meter cable length using same earth potential
CPU	LPC 2368 from NXP
	32 bit ARM7 TDMI-S
Program memory	512 Kbytes embedded flash
RAM memory	32 Kbyte embedded RAM
NV memory	1 Mbyte serial flash

Combined monitoring of 1-4 pumps using ABS CA 441



Advanced monitoring of one pump using ABS CA 441

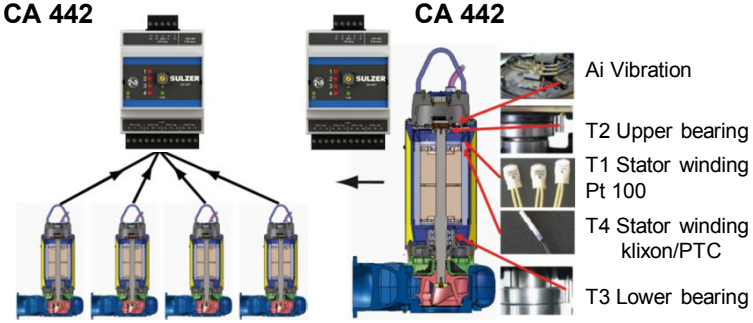


Control Accessories ABS CA 442 Temperature monitoring module for use with ABS PC 441

Only for use with ABS PC 441

Combined monitoring of 1-4 pumps using ABS CA 442

Advanced monitoring of one pump using ABS CA 442



Note: One or two extra ABS CA 442 units can be added if measuring each winding temperature is requested.

Technical specifications

Ambient operation temp.	-20 to +70 °C (-4 to +158 °F)
Ambient storage temp.	-30 to +80 °C (-22 to +176 °F)
Degree of protection	IP 20
Housing material	PPO and PC
	Mounting DIN Rail 35 mm
Dimension HxWxD:	86 x 70 x 58 mm
	(3.39 x 2.76 x 2.28 inch)
Humidity	0-95 % RH non condensing
Power supply	9-34 VDC
Power consumption	152 mA@12V VDC ≥ 625 mW
Inputs	PTC and Klixon: threshold 3,3 kΩ
	Pt 100: -20 to +180 °C (-4 to +356 °F)
	4-20 mA for vibration monitoring
Communication	Field bus of CAN type, max 250 meter cable length using same earth potential
CPU	LPC 2368 from NXP
	32 bit ARM7 TDMI-S
Program memory	512 Kbytes embedded flash
RAM memory	32 Kbyte embedded RAM
NV memory	1 Mbyte serial flash

Control Accessories
ABS CA 443 Motor and Supply power monitoring module

Only for use with ABS PC 441

ABS CA 443

- Full monitoring of power supply, total consumption and consumption per pump
- Monitoring of power supply and consumption per pump
- Monitoring of power supply and total consumption

Technical specifications

Ambient operation temp.	-20 to +70 ºC (-4 to +158 ºF)
Ambient storage temp.	-30 to +80 ºC (-22 to +176 ºF)
Degree of protection	IP 20
Housing material	PPO and PC Mounting DIN Rail 35 mm
Dimension HxWxD:	86 x 70 x 58 mm (3.39 x 2.76 x 2.28 inch)
Humidity	0-95 % RH non condensing
Power supply	9-34 VDC
Power consumption	110 mA@12V Vdc ≥ 132 mW
Inputs Phase voltages	30 – 300 VAC (phase to neutral) Up to 520 VAC Phase to Phase
Current	5 A from current transformer
Communication	Field bus of CAN type (galvanic isolated), max 250 meter or 820 ft cable.
CPU	LPC 2368 from NXP 32 bit ARM7 TDMI-S
Program memory	512 Kbytes embedded flash
RAM memory	32 Kbyte embedded RAM
NV memory	1 Mbyte serial flash

Control Accessories
Output Expansion Module Type ABS CA 781

Only for use with ABS PC 441

ABS CA 781 is an IO expansion module for the ABS PC 441 concept.
The unit is connected to the system via CAN bus communication.
ABS CA 781 is fitted with 8 nb of digital outputs and 2 nb of analogue outputs.
The unit needs power supply via an external source.

ABS CA 781

- 8 nb Digital Outputs
- 2 nb Analogue Outputs
- Connected to the system over CAN-bus

Ambient operating temp.	-20 to +70°C (-4 to +158°F)
Mounting	DIN rail 35 mm
Degree of protection IP 20	
Housing material	PPO and PC
Dimension HxWxD:	86 x 70 x 58 mm (3.39 x 2.76 x 2.28 inch)
Humidity	0-95 % RH non condensing
Power supply	9-34 VDC
Digital outputs Max load	Nb 8, Positive logic. Sourcing from power supply 1A/output. Max total current for all 8 outputs together is 4 A.
Analogue outputs	Nb 2, 4 – 20 mA

Control Accessories
ABS CA 622 RS 485 Communication module

Only for use with ABS PC 441

Release 2014 Q3, requires firmware upgrade of ABS PC 441

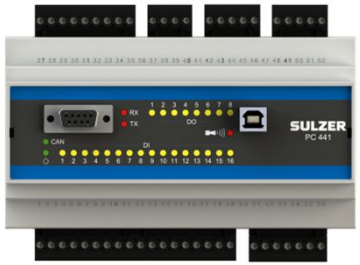
ABS CA 622 is a RS 485 communication expansion module for the ABS PC 441 concept.
The unit is connected to the system via CAN bus.
ABS CA 622 is fitted with a RS 485 communication port for communication with peripheral products as VFD's, Soft starters, Energy meters Etc.
The unit is powered via the can-bus.

Ambient operating temp.	-20 to +70°C (-4 to +158°F)
Mounting	DIN rail 35 mm
Degree of protection	IP 20
Housing material	PPO and PC
Dimension HxWxD:	108 x 35 x 58 mm (4.25 x 1.38 x 2.28 inch)
Humidity	0-95 % RH non condensing
Power supply	9-34 VDC
RS 485 serial interface	No 1, galvanically separated

Control Accessories
ABS CA 622 RS 485 Communication module

Only for use with ABS PC 441

ABS PC 441 Controller



Can Bus

ABS CA 622 RS 485 Com-munication module

- Less IO needed
- Reduced wiring
- ABS CA 443 not needed and together with VFD's not recommended

VFD
1-4

Soft Starter
1-4

Energy
Meters
1-5

Control Accessories

GSM/GPRS Modem ABS CA 521

The ABS CA 521 is a GSM/GPRS tri-band modem suitable for use with all ABS controllers equipped with RS 232 communication.

Features:

- GSM/GPRS tri band modem
- DIN rail norm enclosure mounting
- 9-35 VDC supply
- Plug & play with ABS controllers
- External antenna
- Antennas of desired type can be used and placed at optional point

3G Modem xxxx to be released 2014 Q3

GSM/GPRS Modem ABS CA 522

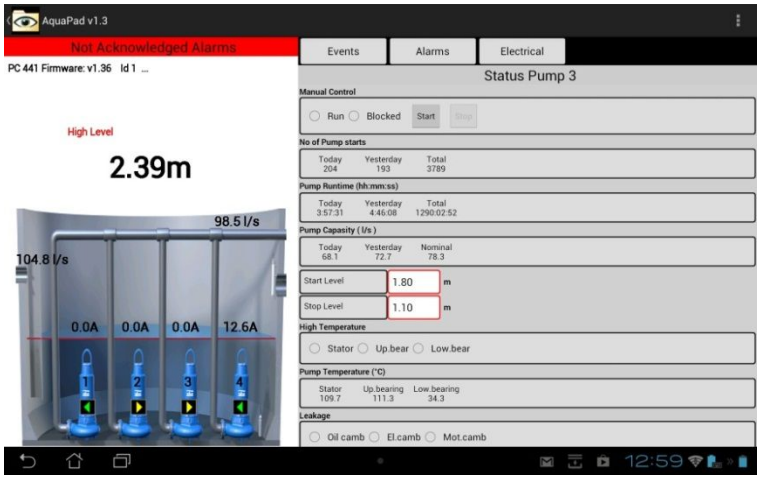
The ABS CA 522 is a GSM/GPRS quad-band modem specially designed for the ABS CP 116 and CP 216 Control Panels.

Features:

- GSM/GPRS class 12, quad band modem
- Specially designed for ABS CP 116 and ABS CP 216 Control Panels
- External antenna
- Antennas of desired type can be used and placed at optional point

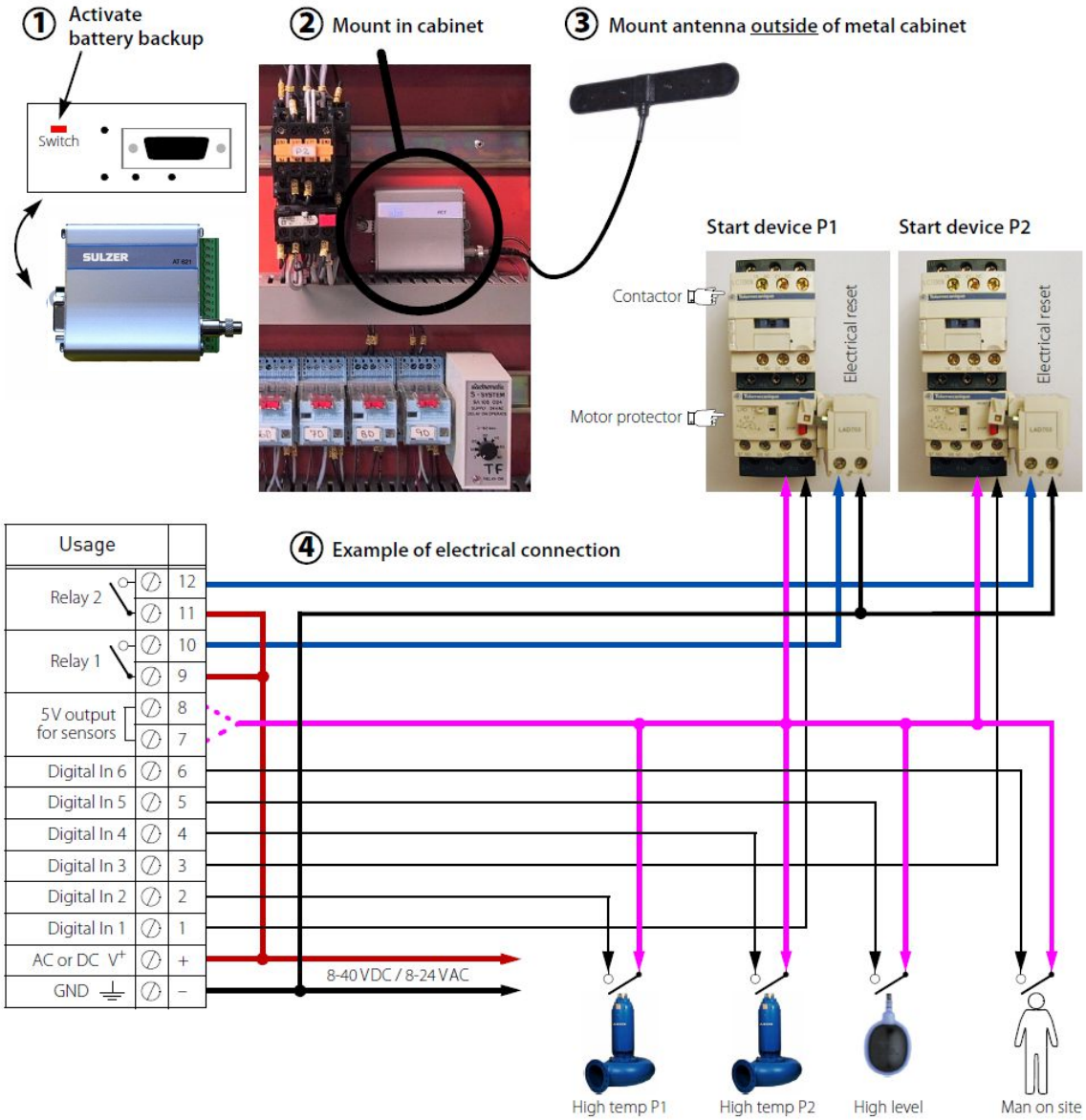
AquaApp and AquaPad
For Android and IOS Based Systems

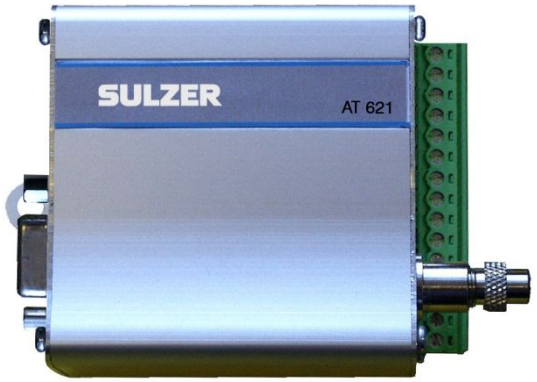
Sulzer has developed two Android based APP's to connect the ABS Controllers and Control Panels to standard Smart Phones and Pad's.
Following features are included:



- Local Wi-Fi, Bluetooth or Internet based connection to ABS Control & Monitoring equipment
- Supports ModBus RTU/TCP and Comli
- Graphical pump pit status indication for 1–4 pumps, including in-/out flow and alarms
- Status indication of each pump including the possibility to change start / stop levels, reset the motor protector, see number of starts and running hours and much more
- View Alarms and acknowledge them
- View Events
- Visual representation of electrical properties

Alarm Transceiver Type ABS AT 621





Note! Only available within an AquaWeb rental contract!

Control Software

Monitor & Configuration Software Type ABS AquaProg

ABS AquaProg is a Windows based software specially made for setting of Sulzer substations.

Communication with the controllers are established via RS 232, USB, Modem (Analog, GPRS / 3G or Ethernet

Features

- Configure Sulzer Controllers & Panels
- Check and acknowledge alarms
- Show the status of specific stations
- Show and acknowledge alarms
- Collect and send configuration data for each substation
- Collect and present events
- Collect and present log data
- Local / Remote substation software upgrade
- Showing the status of the in- and outputs of the substation

C&M Services


ARE YOU IN CONTROL?
Enjoy the Control & Monitoring Campaign Site
LIFE CYCLE COSTS
Equipment Cost
Installation Costs
Energy Costs
Additional Energy Costs
Maintenance Costs
Operator Costs
Down Time Costs
Environmental Costs
Disposal Costs
C_{ic}
C_{in}
C_e
C_{ae}
C_m
C_o
C_s
C_{en}
C_d
PRODUCTS
Pump controllers
Equipment controllers
Alarm transmitters
Control panels
Measuring devices
Control software
Accessories
Services range
SERVICE CONTRACTS
ABS AquaWeb
Alarm management
ABS AquaWeb
Adv. alarm management
ABS AquaWeb
Control & surveillance
ABS AquaWeb
Equipment optimization
ABS AquaWeb
Log in or view Demo
Choose Country
APPLICATIONS

AquaWeb a Monitoring and Surveillance System

ABS AquaWeb is a web based Monitoring and Surveillance system with as well remote control and Alarm handling capabilities.

The advanced alarm management is aimed at wastewater collection pumping stations. It's a whole range of services including everything from pump controllers and modems at the station, via a communication server, to a web interface.

ABS AquaWeb can be used to

- Show the status of the whole collection network on a map
- Show the status of specific stations
- Advanced alarm handling and routing
- Categorization of alarms and reason
- Collect and present events
- Collect and present log data

Advantage for collection operation

- Always reachable via internet
- Low investment cost
- No upgrade costs
- No maintenance costs
- Fixed running cost
- Top of the range service and operation
- High built-in security

High data security and availability

Sulzer has put in great effort to secure the availability of the whole AquaWeb system functionality.

The system has built in check and monitoring routines to increase data availability and if anything out of the ordinary happens it will quickly detect and notify of what and where the problem is located.

Server redundancy

- Redundant internet connections
- Air conditioned server room
- Double power supplies
- UPS/Diesel-Power back-up
- Redundant Hard disk drives

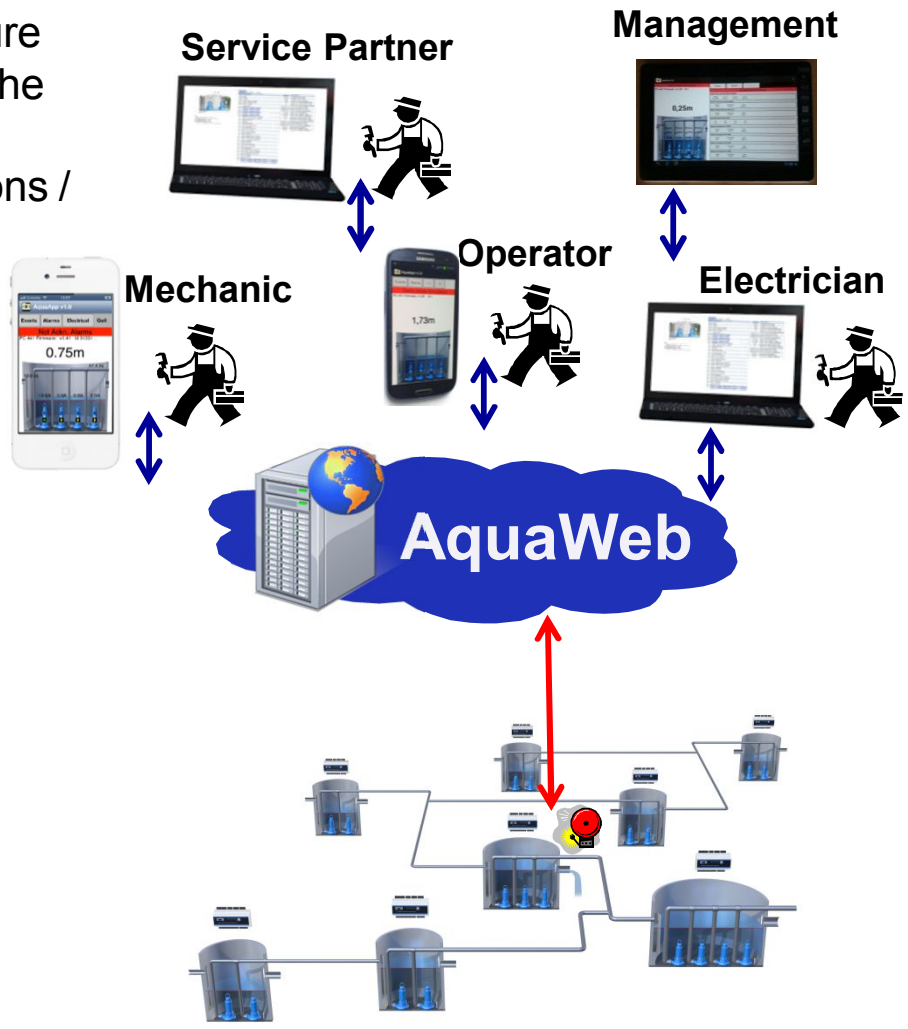
Station controller availability check

- SMS connected units are to report in every 24 h, if not the server will try to call the SMS alarm unit.
- All GPRS connected units has an automatic heartbeat check every 30 minutes. Not just TCP IP connect but actual data transfer check.

Multiple and Parallel Communication Interfaces

Parallel Communication to be released 2014 Q3

Sulzer has put in great effort to design a secure login over the web or via Sulzer Apps/Tabs. The AquaWeb Communication System supports parallel communication for up to 10 Applications / Users via different interfaces.

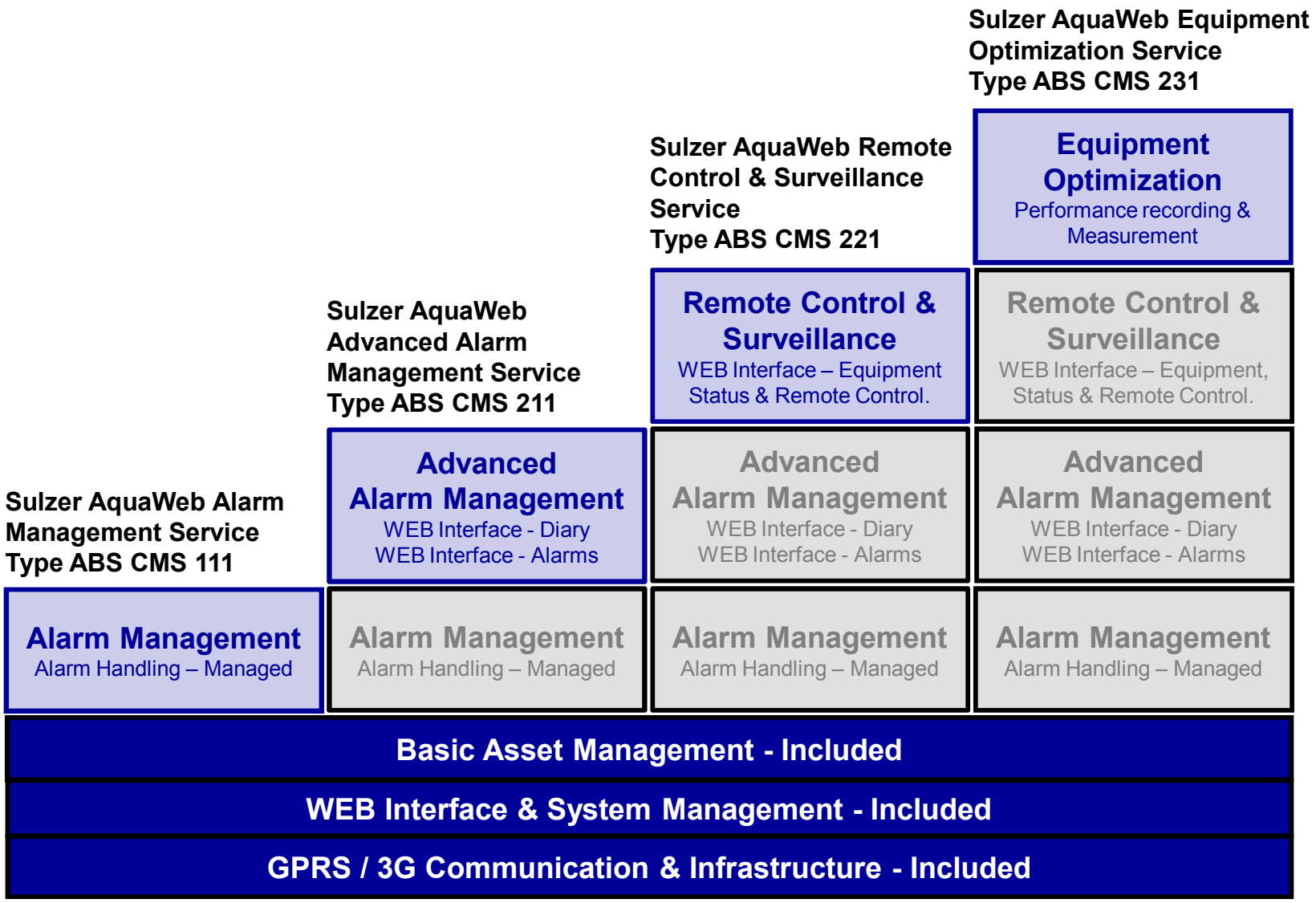


Communication Contracts

- High Security login to the GPRS and 3G interface
- Up to 10 parallel simultaneous user connections per station supporting ABS AquaApp / Pad/Tab, ABS AquaProg & ABS AquaWeb
- Secure GPRS/3G communication over own APN
- Full monitoring over communication availability and usage
- Alarms can be set and communication even terminated if escalating cost occurs

AquaWeb a Monitoring and Surveillance System From Simple Alarm Management To Equipment Optimization

SULZER



Control & Monitoring
Adds value to the complete offering

SULZER