Control Panel
Type ABS CP 221

SULZER

Advanced control panel with controller for two pump applications.

Construction

- Control of 2 pumps 1.5 - 22 kW.
- Control of 1 sump mixer 1.5 - 5.5 kW.
- Steel enclosure.
- Electronic motor 3-phase overload protection.
- Monitoring of pump motor temperature, motor currents and seal leakage.
- Monitoring of mixer motor temperature.
- Level sensing by 2-wire sensor 4 - 20 mA.
- High float switch.
- Monitoring of station overflow.
- "Man on site" input for holding alarms during site visit.
- Energy and precipitation meter input.
- Fuses for pumps, mixer and internal supply.
- Power supply phase surveillance.
- Battery back-up.
- Space for GPRS/GSM tri-band modem.
- Local alarm indication by buzzer.
- Protection of standby pump by ratio alternation.
- Pump control by energy tarif.
- Ready for connection ABS AquaWeb.
- Two executions for standard and Ex pumps.
- RCD as option.

The CP 221 is a control panel providing a complete solution for 2-pump sewage pumping stations. It is built around the PC 242 controller with advanced control and monitoring features to give optimum performance and reliability over the stations whole life cycle. It is designed to be wall mounted in buildings and the design will give a high degree of redundancy to maintain pump operation in most cases of single failure.

Technical specifications

Description	
Controller	PC 242
Power range pumps	1.5 - 22 kW
Power range mixer	1.5 - 5.5 kW
Starting method pumps	Direct on line or soft start
Starting method mixer	Direct on line
Voltage	400 V 3~/50 Hz
Phase surveillace	3-phase phase sequence, phase loss, asymmetry (over/under voltage as option).
Material	Steel 1.5 mm
Ambient operating temperature	-20 to +50 °C. (Power reduction from 40 °C)
Degree of protection	IP 55
Size	DOL 3 - 12 A, soft start 8 - 42 A: 600 x 600 x 220 mm (W x H x D) from 42 kg Soft start 12.5 - 42 A: 600 x 800 x 220 mm (W x H x D) from 45 kg
Motor overload protection	Electronic with local and remote reset and short circuit protection.
Pump control	Separate start/stop levels for each pump; random start level range; control by energy tariff time period; alternation: Off/1:1 or ratio; automation test run time interval; H-O-A-T (Hand-Off-Auto-Test) switch, independent of controller; stand-by pump back-up run timer activated by high float switch.
Pump monitoring	Motor current measured on one phase, motor winding temperature (klixon/PTC) and seal leakage (DI).
Mixer control	Mixer run level range, run every pump start, run interval timer.
Mixer monitoring	Motor winding temperature (klixon).
Station flow monitoring	In- and outflow calculated by pump sump geometry and level change.
Pump efficiency monitoring	Calculated at start of every pump cycle.
Overflow monitoring	Measured in overflow window or pipe by overflow switch or last calculated station inflow.
Alarm handling	A and B type. Stored locally. Transfer to mobile phone via SMS. Transfer to central system via data communication. Local sound indication, alarm blocked by "man on site" activation.
Data logging	Local storage of daily values, analogue and digital logging.
Data transfer	Modbus or Comli protocol via RS 232 serial data connection.
Remote connection/Telemetry	GSM/GPRS modem, Ethernet, leased-line modem, etc.
Approvals	Designed according to EN 60204-1.

Standard program

Version	Range up to	Part.-No.
DOL_Basic	3 - 12 A	15207100
DOL_Ex	3 - 12 A	15207101
DOL_Basic_Mixer	3 - 12 A	15207102
DOL_Ex_Mixer	3 - 12 A	15207103
DOL_Basic_RCD	3 - 12 A	15207104
DOL_Ex_RCD	3 - 12 A	15207105
DOL_Basic_Mixer_RCD	**3 - 12 A**	**15207106**
DOL_Ex_Mixer_RCD	**3 - 12 A**	**15207107**
Soft_Basic_32	8 - 32 A	15207110
Soft_Ex_32	8 - 32 A	15207111
Soft_Basic_Mixer_32	8 - 32 A	15207112
Soft_Ex_Mixer_32	8 - 32 A	15207113
Soft_Basic_RCD_32	8 - 32 A	15207114
Soft_Ex_RCD_32	8 - 32 A	15207115
Soft_Basic_Mixer_RCD_32	**8 - 32 A**	**15207116**
Soft_Ex_Mixer_RCD_32	**8 - 32 A**	**15207117**
Soft_Basic_42	12.5 - 45 A	15207120
Soft_Ex_42	12.5 - 45 A	15207121
Soft_Basic_Mixer_42	12.5 - 45 A	15207122
Soft_Ex_Mixer_42	12.5 - 45 A	15207123
Soft_Basic_RCD_42	12.5 - 45 A	15207124
Soft_Ex_RCD_42	12.5 - 45 A	15207125
Soft_Basic_Mixer_RCD_42	**12.5 - 45 A**	**15207126**
Soft_Ex_Mixer_RCD_42	**12.5 - 45 A**	**15207127**

All part numbers for 400 V + N + PE
Basic = non-Ex, no RCDs
Ex = Ex(i) relay for emergency float switch, thermistor relays for pumps and mixer motor temperature
RCD = earth leakage breakers for each pump and mixer separately
DOL = direct on line starter
SOFT = soft starter