

## Electronic control panels

# STAR DELTA PLUS 1 RANGE 7,5÷100HP

Star delta starting electronic control panel 1 motor for the dry running control, clean water and sewage with display

- Multi application control panel
- Motor's data auto learning
- Adaptive filling system of the well
- Events and alarms data logger
- Motors maintenance data logger
- Remote control
- Motherboard protection



## GENERAL SPECIFICATIONS

- Operating voltage 400Vac  $\pm 10\%$  50/60Hz
- General disconnecting switch with door lock
- Button for automatic operation
- Button for manual operation (stable/unstable)
- Siren shut-off button
- Adjustable star delta timer
- Auxiliary circuit protection fuse
- Motor protection fuse
- N°3 contactors
- Connection terminal board
- External metal box
- Protection degree IP55
- Operating temperature -5/+40°C

## INPUTS / OUTPUTS

- N°4 very low voltage inputs
- Input 4-20mA
- Very low voltage input for motor klixon
- N°2 alarm outputs 12Vdc max 200mA for siren and flashing Led lamp
- Alarm output max 5A NC-COM-NO (pure contact)

## ADVANTAGES

- Multilingual Display LCD to visualize:
  - Operating voltage
  - Current
  - Cos $\phi$
  - Hour counter
  - Level status
  - System pressure with pressure transducer
  - Tank level in meters with piezoresistive probe
  - All information concerning the operation of the motor
- Motor's data autolearning:
  - Cos $\phi$
  - Maximum and minimum current
- Adaptive filling system of the well
- Adjustable maximum number of starts per hour
- Adjustable motor start test (24-48-72-96h)
- Dry running with level control, cos $\phi$  and minimum current
- Adjustable probe sensitivity
- Emptying (1 input)/ Filling (2 inputs) function
- Loss of pressure control
- Adjustable supply mains waiting
- Siren shut-off
- Operation with pressure switches, float switches, probes, pressure transducer and piezoresistive probe 4-20mA

## PROTECTIONS

- Maximum and minimum current protection with alarm
- Lack and sequence of phases protection with automatic reset and alarm
- Minimum and maximum voltage protection with automatic reset and alarm
- Motor klixon protection with automatic reset and alarm

**THREE-PHASE 400Vac ±10% 50/60Hz**

CODE	TYPE	POWER		OPERATING CURRENT [A]	DIMENSIONS mm			WEIGHT Kg	BOX
		kW	Hp		A-H	L-W	P-D		
SQ687.00/SD	STAR DELTA PLUS 1 400 7,5	5,5	7,5	10÷17	500	400	230	15	50
SQ687.01/SD	STAR DELTA PLUS 1 400 10	7,5	10	13÷21	500	400	230	15	50
SQ687.02/SD	STAR DELTA PLUS 1 400 12,5	9,2	12,5	19÷26	500	400	230	15	50
SQ687.03/SD	STAR DELTA PLUS 1 400 15	11	15	22÷30	500	400	230	15	50
SQ687.04/SD	STAR DELTA PLUS 1 400 17,5	13	17,5	25÷33	500	400	230	15	50
SQ687.05/SD	STAR DELTA PLUS 1 400 20	15	20	32÷40	500	400	230	16	50
SQ687.06/SD	STAR DELTA PLUS 1 400 25	18,5	25	38÷50	500	400	230	16	50
SQ687.07/SD	STAR DELTA PLUS 1 400 35	22÷26	30÷35	45÷65	600	400	230	18	60
SQ687.08/SD	STAR DELTA PLUS 1 400 40	30	40	60÷75	600	400	230	19	60
SQ687.09/SD	STAR DELTA PLUS 1 400 50	37	50	65÷90	700	500	240	20	70
SQ687.10/SD	STAR DELTA PLUS 1 400 60	45	60	70÷105	700	500	290	32	71
SQ687.11/SD	STAR DELTA PLUS 1 400 75	51,5÷55	70÷75	75÷110	800	600	290	36	80
SQ687.12/SD	STAR DELTA PLUS 1 400 80	60	80	80÷150	800	600	290	38	80
SQ687.13/SD	STAR DELTA PLUS 1 400 90	66	90	80÷150	1000	600	370	49	101
SQ687.14/SD	STAR DELTA PLUS 1 400 100	75	100	90÷180	1000	600	370	52	101

**OPTIONALS**

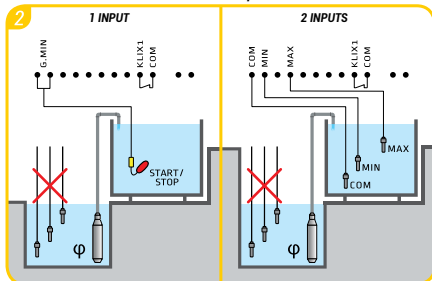
CODE	TYPE
OP100.29/B	On board GPRS expansion
OP100.49/B	On board MODBUS RS-485 expansion
OP100.59/B	On board Ethernet - WiFi expansion
OP100.69/B	On board BMS expansion up to 3 motors
OP100.99/B	On board expansion to detect water in the oil chamber up to 3 motors
OP100.01	3 level probes kit
OP100.17/024	Wired 24Vac relay complete with socket
OP100.05/1	Wired three-phase surge arrester type 2
SS100.00	Visual and acoustic alarm indicator (BASIC ALARM VA 012) <a href="#">see page 20</a>
SS101.01	Visual and acoustic alarm indicator with buffer battery (TOP ALARM VAB 230) <a href="#">see page 19</a>
AC300.11.10-004.20	Pressure transducer 0-10bar 4-20mA with 4m cable
AC300.11.16-004.20	Pressure transducer 0-16bar 4-20mA with 4m cable
AC300.11.25-004.20	Pressure transducer 0-25bar 4-20mA with 4m cable
AC300.20.01-005.31	Piezoresistive probe 4-20mA with 5m cable
AC300.20.01-010.31	Piezoresistive probe 4-20mA with 10m cable
AC300.20.02-010.20	Piezoresistive probe 4-20mA with 10m cable per SEWAGE

For more optionals see page 78

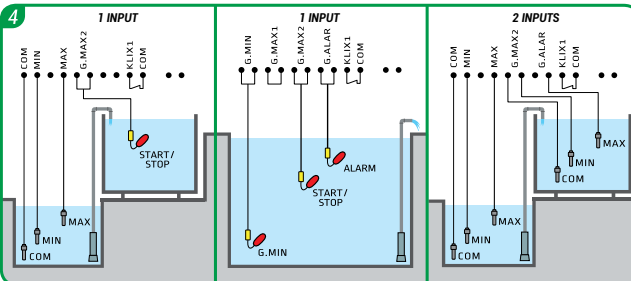
**SPARE PARTS**

CODE	TYPE
AC100.22/1/50	Display electronic board with flat cable 20pin 50cm
AC100.22/1/80	Display electronic board with flat cable 20pin 80cm
AC100.22/1/100	Display electronic board with flat cable 20pin 100cm
SD687.20/1	Three-phase MULTIPLUS 1 electronic board 20A
SD687.30-40/1	Three-phase MULTIPLUS 1 electronic board 30-40A
SD687.60/1	Three-phase MULTIPLUS 1 electronic board 60A
SD687.100/1	Three-phase MULTIPLUS 1 electronic board 100A
SD687.200/1	Three-phase MULTIPLUS 1 electronic board 200A

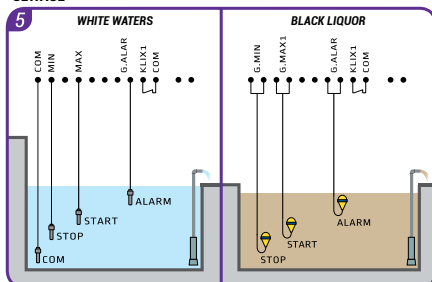
**DRY CONTROL RUNNING WITH COSφ**



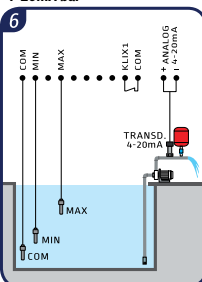
**CLEAN WATER**



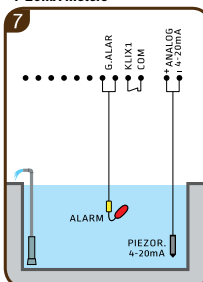
**SEWAGE**



**4-20mA bar**



**4-20mA meters**



**COMPONENTS KEY**

- Float switch for clean water
- Float switch for sewage
- Level probes
- Piezoresistive probe 4-20mA
- Pressure transducer 4-20mA

The addition of some optionals can imply changes on the size of the control panel. For further details please contact our technical/commercial department.