

ES 2 control unit

The new ES 2 control unit is a further development of the ES 1 computer. The processor installed controls the complete pump unit, carries out complex control, monitoring and regulating duties and collects data for various diagnostic functions.

The ES 2 can directly replace an existing ES 1. The housing dimensions are exactly the same and the connectors are compatible with existing units. The logic build up and analogue programme structure are similar to the ES 1 thus invoking a feeling of familiarity.

Hardware

- More functions and more settings possibilities
- Enlarged graphic display
- Increased reliability and decreased sensitivity by use of encapsulated SMD technology PCB's
- Ventilated plastic housing
- All plugs encapsulated
- Flash programme store without buffer battery
- CAN Bus interface e.g. as interface to exchange data with electronically controlled diesel engine
- Serial line interface to transfer the operating system over a PC or for data transfer
- Additional analogue inputs
- Control of up to 5 multi tool valves with status directly indicated in the graphic display
- Can be expanded to transfer data by SMS or online connection
- Compact and robust construction
- Ability to operate under extreme climatic conditions
- High resistance to electromagnetic interference
- Keypad blocker



Software

- The operating instructions can be accessed from the control as a Help function
- In addition to English there are 14 other languages available as options (e.g. Chinese, Japanese and others)
- Emergency programme to enable continued operation when sensors/transmitters are faulty. Constantly active safety relevant monitoring
- Input of parameters and software updates via ES 2 tools
- Possible to archive the individual parameter sentences in a PC
- Damage diagnosis and early warning system
- Uses clearly recognisable graphic symbols to simplify operation
- Certain engine faults will be signalled direct from the CAN Bus, displayed in clear text and saved in the fault protocol
- Teach in parameter memory for fast control processing when using multiple tools

ES 2 - functions

Regulating

- Engine speed regulation
- Engine speed control
- Pressure regulation
- Variable regulation (choice of Pressure or Engine speed regulation)
- Customer specified regulation (on request)
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Operation

- Controller On/Off
- Engine Start/Stop
- Preheat On
- Set value +/-
- High pressure On/Off
- Actual value display, Operating pressure and Engine r.p.m.
- Set value display, Operating pressure or Engine r.p.m (dependant upon control mode selected)
- Battery condition display
- Switch condition indicator for Bypass / Multi tool valve control
- Bypass / Multi tool valve condition display
- Fuel tank display
- Changing an operating parameter (in user's menu)
- Fault indicator
- Operating instructions in unit
- Display of Help text for fault finding

Monitoring

- Engine oil pressure
- Engine temperature
- Engine fault (electronic controlled diesel engine)
- Pump oil pressure
- Boost water pressure
- Water filter
- Pump water temperature (optional)
- Pump oil temperature (optional)
- High pressure
- Engine speed
- Engine operating speed
- Standby time
- Pressure transducer
- Air pressure
- Control cable
- Fuel level
- Water tank
- Generator
- Diesel particle filter
- Over voltage
- Bypass / Multi tool valve



Technical data

- Power supply: 10 to 30V DC
- Operating temperature: -10 to +75°C
- Storage temperature: -20 to +85°C
- Humidity max.: 90%
- Protection: IP54, front side IP65
- EMV EN50081, EN50082, EN55011
- Dimensions (incl. Plug): 186 H x 215 W x 215 D mm
- Weight: 4,2kg