Элементы управления ELBS20
Технические характеристики

По вопросам продаж и поддержки обращайтесь:

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Астрахань (8512)99-46-04
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Череповец (8202)49-02-64
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ELBS-20 ELECTRONIC LINE BREAK SYSTEM

An advanced electronic pipeline integrity monitoring system that measures dynamic pressure trends and initiates failsafe action when necessary

GENERAL APPLICATION

The ELBS-20 is an electronic device designed specifically for monitoring the integrity of pipelines carrying high and low pressure gas and fluid.

STANDARDS AND APPROVALS

EN ISO 12100-1:	Part 1 and 2
EN 60204/1:	Part 1
2006/42/EC:	Machinery directive
2004/108/EC:	EMC directive
94/9/EC:	ATEX directive
2006/95/EC:	Low voltage directive
IEC 60068-2-6, IEC 60068-2-57:	Vibration test

TECHNICAL DATA

Internal battery nominal voltage:	7.2 V DC
External power supply:	24-48 V DC +/- 20%
Pressure sensor range:	10 to 1000 bar
Sensor input:	4-20 mA or 0-20 mA 2 or 3 wire
Analog output:	4-20 mA
Ambient temperature:	-40°C to +75°C

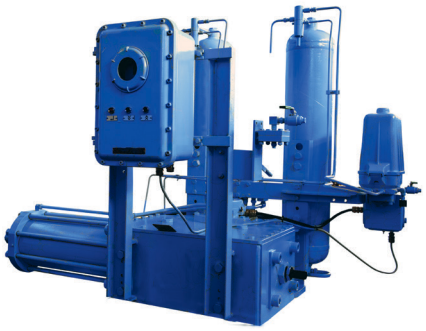
FEATURES

- Configurable cyclic line pressure sampling and tracking
- 5 Safety critical parameters monitored
- Dedicated controls for up to 4 SOVs
- Test routines for SOV and safety action function checks
- Auto diagnostic capability, internal monitoring of power source, internal voltage and analog input circuits
- Wide range of digital and analog inputs and outputs for high diagnostic, signalling and control capabilities
- MODBUS RTU (RS485) interface
- RS232, RS485 and Bluetooth serial communication ports provided
- Local operator interface with 3 pushbuttons and 128x64 graphical OLED display
- Up to 2 years life internal power supply or external power option
- Specific low consumption working mode with battery power supply
- Position and pressure transmitter sensor powered directly from device
- 1000 events log and time/pressure curves stored in flash memory accessible through Biffi Assistant software

ELBS-20 ELECTRONIC LINE BREAK SYSTEM

PRODUCT OVERVIEW

The ELBS is an electronic device designed and built to monitor pipeline integrity and initiate failsafe action when necessary. It measures dynamic pressure trends in the pipeline continuously and sends a command to the actuator to stroke the line valve to the fail safe position when critical anomalies are detected.



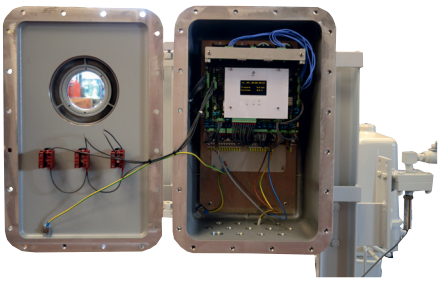
The ELBS is capable of monitoring five crucial safety parameters:

- Rate of pressure drop
- Pressure decrease against reference value
- Pressure increase against reference value
- Low limit exceeded
- High limit exceeded

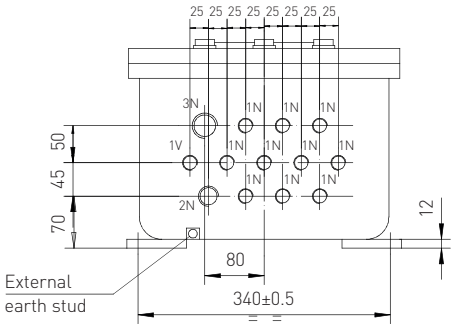
Its in-built memory is capable of logging up to 1000 events, which can be downloaded to any portable electronic device for future analysis.

It has a wide range of both digital and analog inputs and outputs for diagnostic, signalling and controls:

- 2 analog inputs for monitoring pressure and position (optional)
- 3 digital inputs for command and instruction functions
- 7 individually configurable dry contact output relays to report any one of 14 discrete signal or status readings
- 4-20 mA analog output

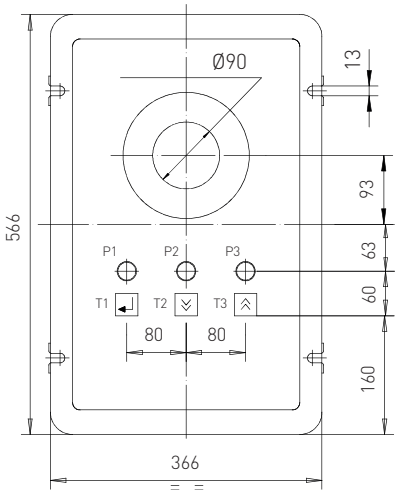


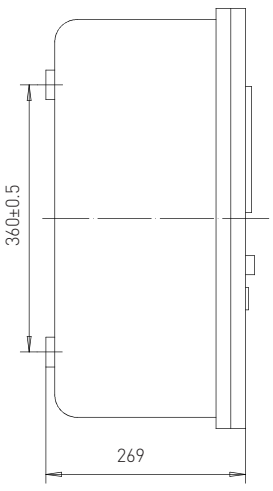
OVERALL DIMENSIONS



Conduit entries

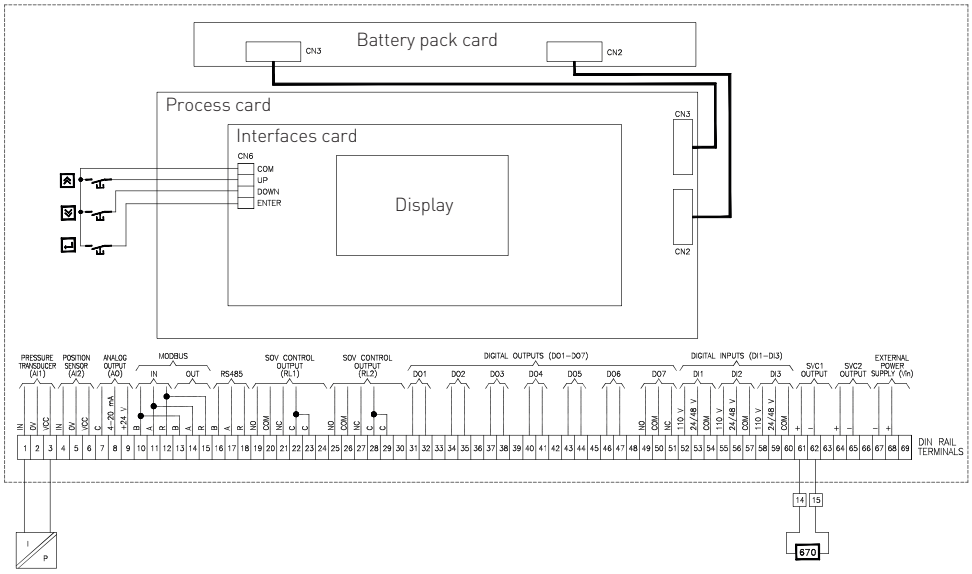
1V	= ISO M20x1,5	Nr. 1
1N	= ½"NPT-F	Nr. 10
2N	= ¾"NPT-F	Nr. 1
3N	= 1"NPT-F	Nr. 1



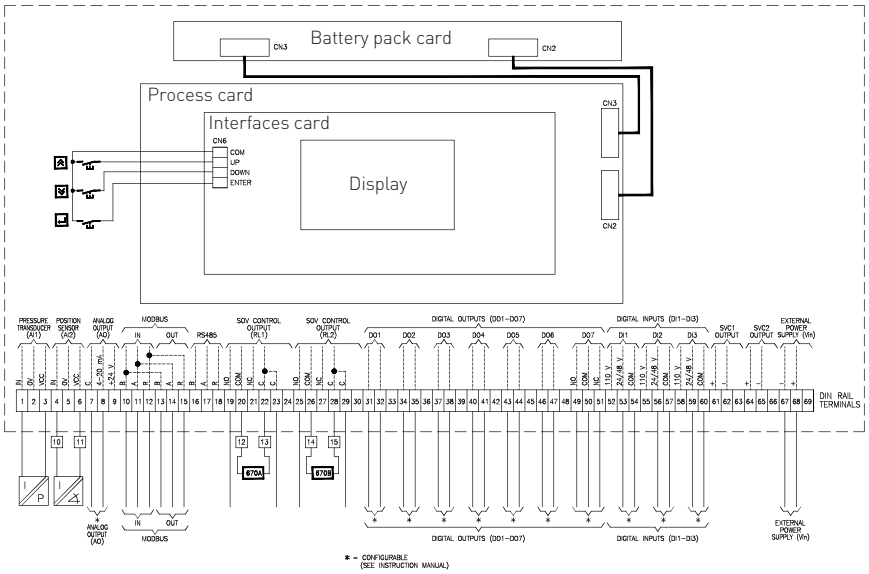


ELBS-20 ELECTRONIC LINE BREAK SYSTEM

WIRING DIAGRAM INTERNAL POWER SUPPLY



WIRING DIAGRAM EXTERNAL POWER SUPPLY



Signal type	Description
Analog input (AI1)	Pressure sensor analog input (4-20 mA or 0-20 mA)
Analog input (AI2)	Position sensor analog input (4-20 mA or 0-20 mA)
Analog output	4-20 mA feedback loop
MODBUS	Modbus data and reference lines
RS485	RS485 data and reference lines
SOV control output (RL1)	SOV control output (external power supply)
SOV control output (RL2)	SOV control output (external power supply)
Digital outputs (DO1-DO7)	Configurable dry contact relays. Each relay can be configured individually for 1 of 14 discrete status or alarm signals
Digital inputs (DI1-DI3)	Opto-isolated digital inputs. Each input can be configured individually for 1 of 7 discrete command or functional instruction signals
SOV control output (SVC1)	SOV control output. (Internal power supply, low power SOV only)
SOV control output (SVC2)	SOV control output. (Internal power supply, low power SOV only)

ELBS-20 ELECTRONIC LINE BREAK SYSTEM

SELECTION GUIDE

Product identification (6 digits)

234 ELB

Version (1 digit)

0 ELBS-20

External power supply (1 digit)*

0 No ext. power supply (Battery pack must be specified)
A 24-48 V DC mains supply

Battery packs (1 digit)

0 Without battery pack card (External power supply must be specified)
4 With default battery pack (4 batteries) + 4 spare batteries
8 With def. + aux. battery pack (8 batteries) + 8 spare batteries

Cabinet material (1 digit)

A Aluminum - IP66
S AISI 316 - IP66**
G GRP (Glass reinforced polyester) – IP66**

Cabinet electrical certification (1 digit)*

A No explosion proof **
B ATEX or IECEx – EX-d IIB (Not available with GRP cabinet material)
D Biffi ELBS device is CCC certified. Refer to factory and certificate at Biffi website (not availabe for GRP) **

Additional bus card (1 digit)

0 Standard MODBUS RTU

Accessories (1 digit)

0 None

Special version (1 digit)

0

234 ELB - X - X - X - X - X - X - X - X - X

* Consult factory for availability of other options.

** Consult factory for availability.

X = is one of the listed table options only

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