Data Sheet 10/68-8.22-EN Rev. B

EBN861 (Contrac)
Power Electronic Unit



For continuous control of Contrac actuators RHD(E) ... and RSD(E) ... (high-performance end)

Microprocessor-controlled power electronic unit with integrated frequency converter

Voltage supply 230 V AC

Conventional signal interface (0 / 4 ... 20 mA / 24 V)

Digital communication via RS232 and HART

PROFIBUS DP

Additional functions such as process controller, maintenance computer, programmable characteristics

Field-mount housing in high protection class IP 66

Torque and speed variation

Continuous positioning

Simple installation and commissioning

Simple configuration and parameter setting via graphical user interface

High response sensitivity

Reliable for short positioning times

Power and productivity
for a better world™

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1 General description

1.1 Brief description

The Contrac power electronic unit includes the frequency converter for motor control, the binary and analog inputs and outputs and the communication interfaces. The power electronic unit serves as the interface between the actuator and the control system.

Using continuous positioning, the power electronic unit varies the motor torque steplessly until the actuator force and the control valve force are balanced. High response sensitivity and high positioning accuracy with short positioning time ensure an excellent control quality and a long actuator life.

1.2 Operating principles

The actuator continuously responds to a setpoint signal. The motor is permanently under voltage (operating mode S9 – 100 % stall-proof according to IEC 60034-1 / EN 60034-1) and gently increases or reduces the torque on the electronic unit in proportion to the ΔY signal (the difference between the Y setpoint and the Y position signal).

The actuator is not subject to temperature derating, i.e., there are no restrictions, even at the maximum permissible ambient temperature. Where a state of balance exists, the actuator force and process force are equivalent and the actuator keeps the final control element in the required position.

The classification of the Contrac actuator, "S9 – 100% stall-proof", in accordance with IEC 60034-1 / EN 60034-1 far exceeds the requirements for the highest class, "continuous modulation, class D", as per EN 15714-2.

The Contrac actuator offers extensive process optimization capabilities thanks to its high-precision and highly dynamic operation.

1.3 Power electronic unit

Power electronic units are available for assembly in the field near the actuator, remotely in the frame or for integrated assembly (smallest actuator type).

In addition to the terminals, the electronic unit contains the microprocessor, the frequency converter for motor control, the analog and binary inputs and outputs, the PROFIBUS or HART communication interfaces, the commissioning and service field and the female connector for connection to a PC.

All power electronic units are supplied by the 1~ AC 230 V or 115 V line supply (50 or 60 Hz), whatever the motor output of the associated actuator

The commissioning and service field enables the end positions and direction of rotation to be set on the actuator. Status information is displayed via LEDs. Push buttons can be used to operate the actuator and set the operating mode (Automatic, Out of Service).

1.4 Analog signal and power input

For the analog signal and power input, the setpoint specification is received from the control system through a 0 … 20 mA or 4 … 20 mA current value. Signal monitoring is possible, should the signal deviate from pre-defined limits, the actuator will perform the set safety procedure (e. g. "Lock in last position" or "Drive to safety position").

The position feedback is also given through a 0 … 20 mA or 4 … 20 mA feedback signal.

There are 3 digital inputs and 3 digital outputs available in addition to the analog signal.

If a digital input is activated, it will take priority over the setpoint signal (manual mode takes priority over automatic mode).

The following digital input configurations are possible:

Configuration	Digital input 1	Digital input 2	Digital input 3
OFF	No function	No function	No function
Manual intervention	Manual mode / Automatic mode switching	Travel command in OPEN direction	Travel command in CLOSE direction
Rapid traversal	Rapid traverse mode / Automatic mode switching	Rapid traverse travel command in OPEN direction	Rapid traverse travel command in CLOSE direction
Step controller	ON / OFF step controller activation	Step controller pulses in OPEN direction	Step controller pulses in CLOSE direction

The digital output function is freely selectable for each output. The following functions are available:

Function	Description
Ready to operate	Signaling of device status
Signal end position 0%	Actuator has reached the 0% position
Signal end position 100%	Actuator has reached the 100% position
Signal limit value 1 rising	While the signal level is rising, the actuator has reached the position defined as limit value 1
Signal limit value 1 falling	While the signal level is falling, the actuator has reached the position defined as limit value 1
Signal limit value 2 rising	While the signal level is rising, the actuator has reached the position defined as limit value 2
Signal limit value 2 falling	While the signal level is falling, the actuator has reached the position defined as limit value 2
Collective failure	Drive function is no longer given. The actuator is no longer available.
Collective alarm	Parameters in the Contrac interface system have adopted values, which make a failure in the near future likely. The actuator remains functional.
Local operation	The actuator is operated via the local control station (ISF)
Rapid traverse, activation + direction	Actuator is moving at rapid traverse speed in + direction (only for 2-motor version)
Rapid traverse, activation - direction	Actuator is moving at rapid traverse speed in - direction (only for 2-motor version)

1.5 Step controller operation

In the "step controller" operating mode the incoming control commands are received as pulses at digital inputs DI2 and DI3 these are upward-integrated into an internal memory. The memory uses these pulses to generate an internal setpoint which the actuator then follows.

This process is as easy on the control valve and actuator operation similar to the analog control process.

1.6 Rapid traverse mode

The actuator is operated exactly in the same operating mode as in the analog control mode. On activation of digital inputs 2 or 3, the actuator moves at twice the rated operating speed and half the torque in the corresponding direction. Just before the end position is reached, the actuator travel speed is automatically switched back to the set speed, at which the remaining distance is covered.

1.7 Speed

Contrac actuators offer different speed adjustments for both directions, independently of actuator torque or actuator force.

Furthermore, a speed characteristics curve can be set with three different speed values for each direction.

The actuator speed is steplessly adapted to the rate of change in speed of the setpoint value. This ensures a highly dynamic and extremely precise control process. In order to preserve the control valve, the actuator speed is automatically reduced before the end position is reached.

1.8 Torque/Force

The torque and actuator force setting options are comparable to the speed setting options. 50 %, 75 % and 100 % of the rated output value can be selected. The power electronic unit will alter the motor control according to the selected value.

1.9 Setpoint monitoring

The setpoint can be monitored for compliance with the adjustable limit values. Should the setpoint exceed the upper limit value or fall below the lower limit value, the actuator will perform the previously defined safety action. "Lock in current Position" or "Move to pre-defined safety position" are available as safety actions.

1.10 Ambient conditions

Temperature

The ON-period is not subject to derating, i. e. even at the maximum permissible ambient temperature, the actuator ensures maximum control precision and dynamics during an ON-period of 100 %.

Corrosion protection

The actuators and power electronics have been designed for operation in extreme ambient conditions. They satisfy the requirements of atmospheric corrosivity category C5-I (highly polluted industrial atmospheres) for protection against external corrosion in accordance with DIN EN 15714 (Electric actuators for industrial valves – Basic requirements), and EN ISO 12944-2:1998 (Paints and varnishes. Corrosion protection of steel structures by protective paint systems. Classification of environments). Electronic cabinet modules satisfy the requirements of category C1 (low pollution) as per EN ISO 12944-2:1998 (Paints and varnishes. Corrosion protection of steel structures by protective paint systems. Classification of environments).

Service life

Contrac actuators and power electronic units exceed the service life requirements for the highest class D, "continuous modulation", as per DIN EN 15714 (Electric actuators for industrial valves – Basic requirements). These actuators remain maintenance-free for up to 10 years under "normal" load.

1.11 Communication

PROFIBUS DP, PROFIBUS DP/V1 or HART communication protocols are available for the purpose of digital communication.

PROFIBUS

PROFIBUS DP is an international, open fieldbus protocol which has been standardized in the fieldbus standard EN 50 170.

On a cyclic basis, the master reads the input information from the slaves and writes the output information to the slaves.

In addition to this cyclic data transfer of the process representation (e. g. setpoint and actual value), Profibus DP also provides powerful functions for diagnostics and commissioning.

PROFIBUS DP/V1 additionally offers the acyclic transfer of data for the configuration of slaves, for example.

Data traffic is monitored through the monitoring functions on the master and slave sides.

In addition to PROFIBUS data transfer, ABB Contrac actuators provide two configurable digital outputs for signaling that the end position has been reached, for example.

The two configurable digital outputs can be used independently of the bus communication.

HART

Contrac actuators also offer the option of using the HART communication protocol for configuration and parameterization while operation is in progress.

HART FSK communication enables simultaneous analog setpoint transmission and digital communication without additional installation. The HART signal is modulated on to the 4 … 20 mA analog setpoint signal.

The HART protocol makes use of Frequency Shift Keying (FSK), based on the Bell 202 communication standard.

DTM

The DTM (Device Type Manager) for Contrac actuators is based on FDT / DTM technology (FDT 1.2 / 1.2.1) and can either be integrated into a control system or loaded on a PC with DAT200 Asset Vision Basic. This allows you to work with the same user interface in the commissioning phase, during operation, and for servicing tasks, involving monitoring the device, setting parameters, and reading out data. Communication is based on the HART protocol or PROFIBUS communication. Reading out data from the device has no effect on the operation in progress. Newly set parameters are saved in the non-volatile memory directly upon download to the device, and become active immediately.

EDD

Similar to DTM, the EDD (Electronic Device Description) provides the option of configuring and setting device parameters through the HART communication protocol by using a handheld terminal or a control system with an integrated EDD.

2 Specifications

2.1 General information

	Power Electronic Unit EBN861 (Contrac)
Degree of protection	IP 66
Humidity	≤ 95 % average; condensation not permitted
Ambient temperature	-25 … 55 °C (-15 … 130 °F)
Transport and storage temperature	-25 ... 70 °C (-15 ... 160 °F)
Long-term storage temperature	-25 ... 40 °C (-15 ... 105 °F)
Mounting position	on vertical support, cable gland at the bottom
Coating	2-layer component epoxy (RAL 9005, black)
Cable between actuator and electronic unit	Max. cable length between actuator and electronic unit: 100 m (328 ft). Plug connection for explosion-proof actuators (RSDE … / RHDE …). Optional, loose cable set supplied acc. to length requirements
Weight; approx.	40 kg (88 lbs)

2.2 Supply

Supply voltage (standard actuators)	230 V AC (190 … 260 V); 47,5 … 63 Hz; 1Ph		
Supply voltage (Ex actuators)	230 V AC (190 … 253 V); 47,5 … 63 Hz; 1Ph		
Current at electronic unit [A] (230 V AC)		$I_{max.}$ at 230V	
	RHD(E)2500-10	5,3 A	
	RHD(E)4000-10	10,0 A	
	RHD8000- 12	8,0 A	
	RHDE8000-15	8,0 A	$I_{pos.}$ (230 V) approx. 40 … 50% of $I_{max.}$
	RHD(E)16000-30	12,5 A	
	RSD(E)50- 10	6,4 A	
	RSD100-10,0	12,5 A	
	RSD200-5.0	13,0 A	
External fuse	safety fuse 35 A (Lindner) + thermal circuit breaker 16 A (ETA) fuse and circuit breaker are part of shipment		

2.3 Wire cross-sectional areas

EBN861

Screw terminals			
Conductor cross-section	Motor/brake	fixed:	0.2 … 6 mm² (24 … 10 AWG)
		flexible:	0.2 … 4 mm² (24 … 12 AWG)
	Mains	fixed:	0.5 … 6 mm² (20 … 10 AWG)
		flexible:	0.5 … 4 mm² (20 … 12 AWG)
	Signals	fixed:	0.5 … 4 mm² (20 … 12 AWG)
		flexible:	0.5 … 2.5 mm² (20 … 14 AWG)

2.4 Tapped holes for cable glands

Tapped holes for cables	**optional adapters***	
M20 x 1.5 (2x)	PG 16 (2x)	NPT 1/2” (2 x)
M25 x 1.5 (1 x)	PG 21 (2x)	NPT 3/4” (1 x)

* Adapter for PG or NPT thread must be ordered separately

3 Communication

3.1 Conventional communication

Analog input	0 / 4 … 20 mA; internal load EBN853, EBS852 300 Ω
Analog output	0 / 4 … 20 mA, electrically isolated, max. load 500 Ω
3 digital inputs*, DI 1 … DI 3	Digital 0: -3 … 5 V or open, electrically isolated Digital 1: 12 … 35 V, electrically isolated
3 digital outputs, DO 1 ... DO 3	Potential-free relay contact, max. 60 V, 150 mA
Digital communication	RS 232 for commissioning and service, with optional FSK / HART® or PROFIBUS DP
Default settings	See Chapter 3.3.1 "Standard configuration", page 8
Voltage output U_V	24 V, 15 mA, electrically isolated, for scanning external contacts, or similar applications
Transmitter connection (optional)	Supply for 2-wire transmitter with activated process controller in Contrac
Individual settings	See data sheet 10/68-2.40 or upon request

3.2 PROFIBUS DP communication

PNO ID no.	0x9655 Actuators with DP/V0 communication (cyclic data traffic) 0x09EC Actuators with DP/V1 communication (cyclic and acyclic data traffic)
Communication protocol	Profibus PA profile V3.0 Class B acc. to IEC 50170 / EN 50170 (DIN 19245)
Bus cable	Twisted, shielded copper wire acc. to IEC 50170 / EN 50170
Interface	EIA-485 (RS485) acc. to IEC 50170 / EN 50170
Permissible baud rates	- 93.75 kbit/s - 187.5 kbit/s - 500 kbit/s - 1500 kbit/s Automatic baud rate detection
Bus address	0 ... 126, default address 126 Set Slave Address service is supported
Bus termination	Connectable active bus termination. Voltage supply from power electronic unit
Block types	1 AO Function Block 1 Transducer Block 1 Physical Block
Fail Save	Failsafe function is supported. Configurable function for downtime of bus communication - Lock in last position - Drive to safety position - Adjust with last effective setpoint Adjustable time delay.
Modules for cyclic communication	8 standards-compliant modules and 3 manufacturer-specific modules are available.* SP (Short) SP (Long) RCAS_IN+RCAS_OUT SP+READBACK+POS_D SP+CHECKBACK SP+READBACK+POS_D+CHECKBACK RCAS_IN+RCAS_OUT+CHECKBACK SP+RCAS_IN+READBACK+RCAS_OUT+POS_D+CHECKBACK STANDARD SP+RB+MESSEING SP+RB+ENL_DIAG
Acyclic communication	Full parameterization and configurability via Master Class 2 and DTM
Default settings	See Chapter 3.2 PROFIBUS DP communication, page 7
Digital outputs, DO 1 and DO 2	In addition to the Profibus communication, there are 2 digital outputs. Potential-free relay contact, max. 60 V, 150 mA Default setting: DO 1 end position signal 0 % DO 2 end position signal 100 %
Individual settings	See data sheet 10/68-2.40 or upon request

*A full description of communication modules can be found in parameterization and configuration instructions 45/68-10

3.3 Factory default

3.3.1 Standard configuration

Parameter	Setting
Function selection:	Positioner, parameter: Setpoint
Setpoint function:	Analog setpoint
Setpoint range:	4 ... 20 mA
Setpoint characteristic:	Linear; setpoint = position value
Actual value range:	4 ... 20 mA
Rated torque/Rated force in +/- direction:	100 %
Automatic speed in +/- direction:	100 %
Action in 0 % / 100 % end position:	Keep tight with rated torque/rated force
Digital inputs:	DI 1 Manual/Automatic switching; DI 2 / DI 3 travel command +/-
Digital outputs:	DO 1 ready for operation / error message, DO 2/3 end position signal 0%/100%
Breakaway function:	Deactivated
Close Tight function:	Deactivated
Positioning loop monitoring:	Deactivated
Setpoint monitoring:	Deactivated
Error message via actual value:	Deactivated
Action after restoration of power:	Switch to Automatic
Working range of actuator:	Not set

3.3.2 PROFIBUS DP communication

Parameter	Setting
Function selection:	Positioner, parameter: Setpoint
Setpoint function:	Digital
Setpoint range:	4 ... 20 mA
Setpoint characteristic:	Linear; setpoint = position value
Actual value range:	Digital
Rated torque/Rated force in +/- direction:	100 %
Automatic speed in +/- direction:	100 %
Action in 0 % / 100 % end position:	Keep tight with rated torque/rated force
Digital outputs:	DO 1/2 end position signal 0%/100%
Breakaway function:	Deactivated
Close Tight function:	Deactivated
Positioning loop monitoring:	Deactivated
Communication monitoring:	PROFIBUS DP / V0: Activated Lock in last position PROFIBUS DP / V1: Activated After delay time has elapsed (standard configuration 5 s) Lock in last position
	Deactivated
Error message via actual value:	Switch to Automatic
Action after restoration of power:	Not set

4 Electrical connections

4.1 Analog / digital

Important
The electrical connection is provided by a plug on the actuator and the terminals on the electronic unit.

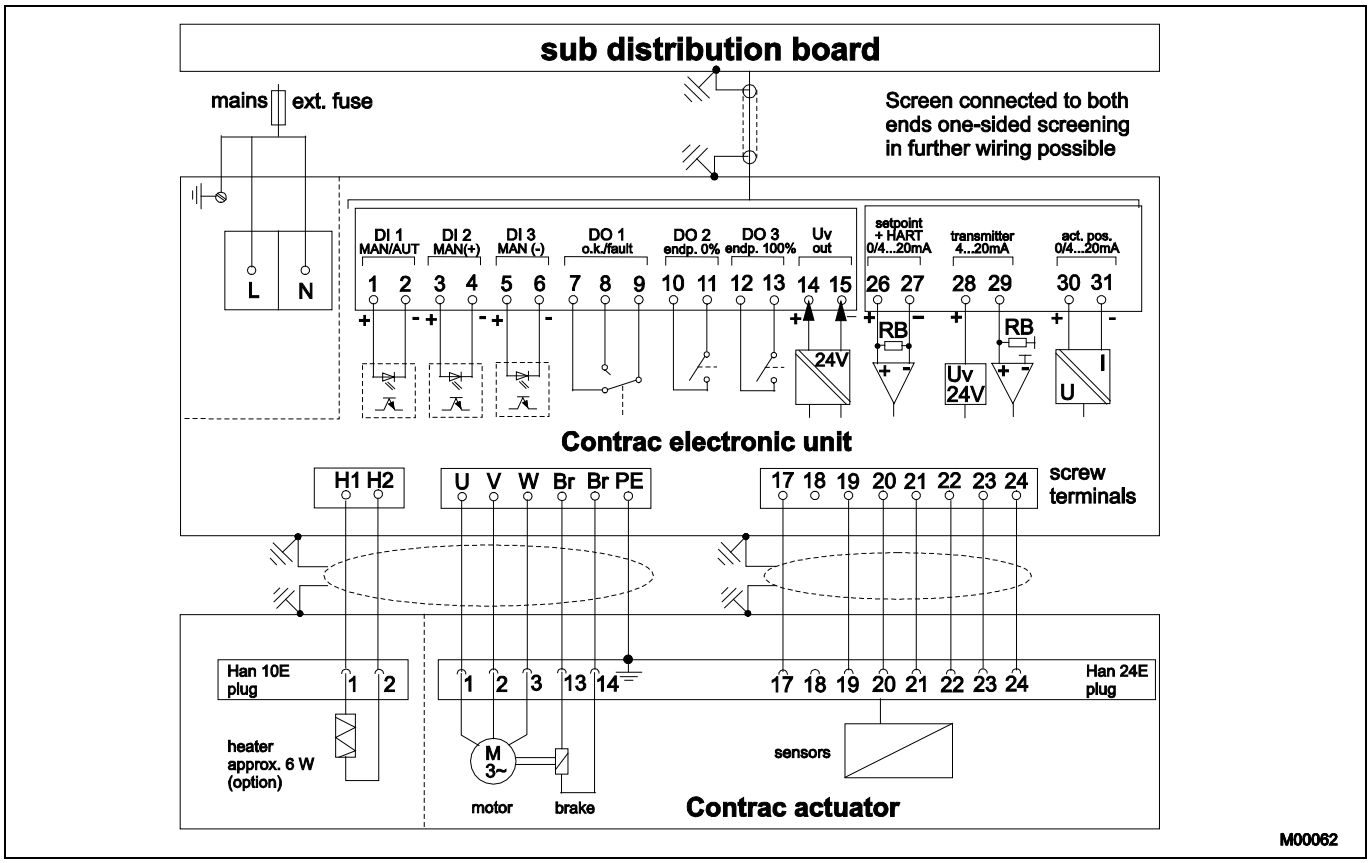


Fig. 1: Electrical connection: Standard analog / digital

4.2 PROFIBUS DP

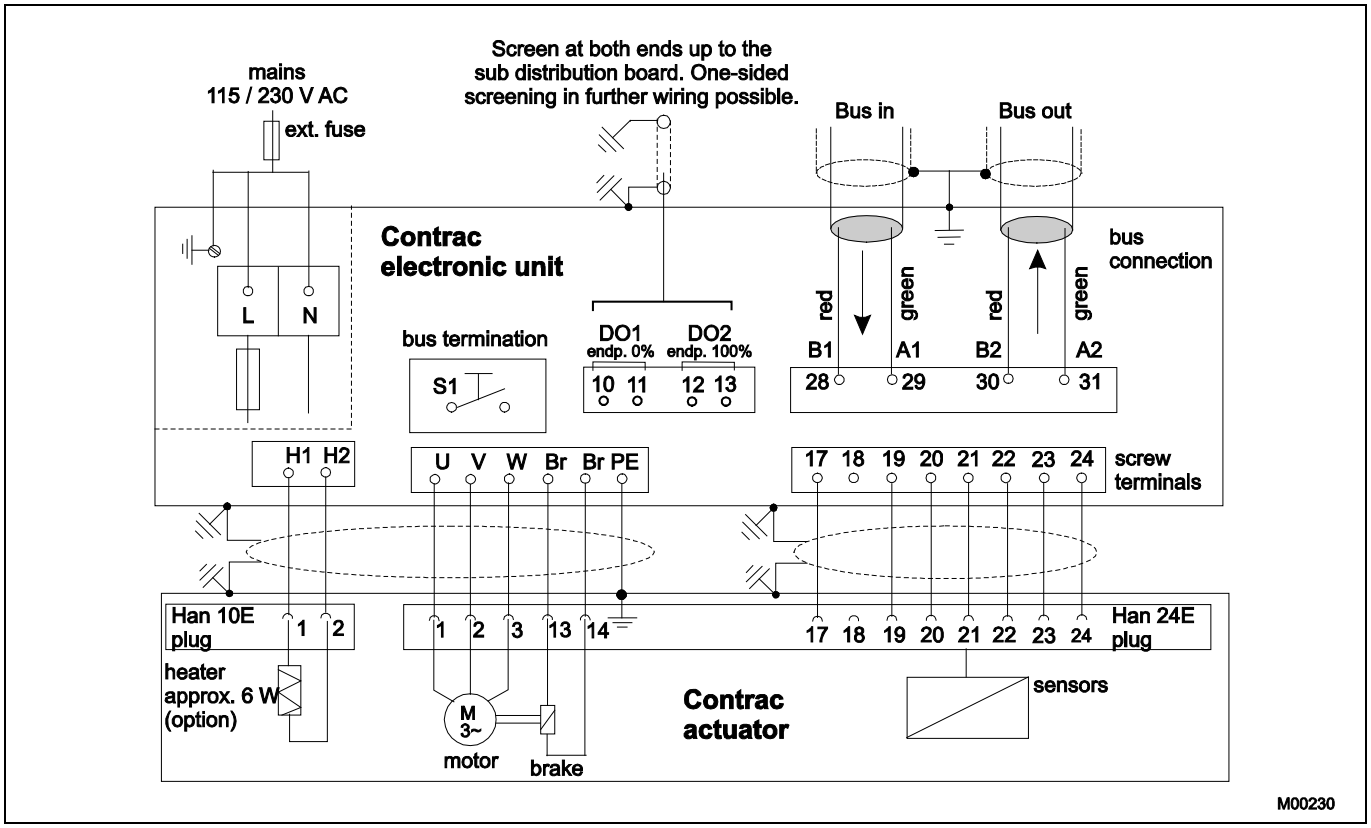


Fig. 2 Electrical connection: PROFIBUS DP option

4.3 Ex actuator analog / digital

Important
The electrical connection is provided by terminals on the actuator and on the electronic unit.

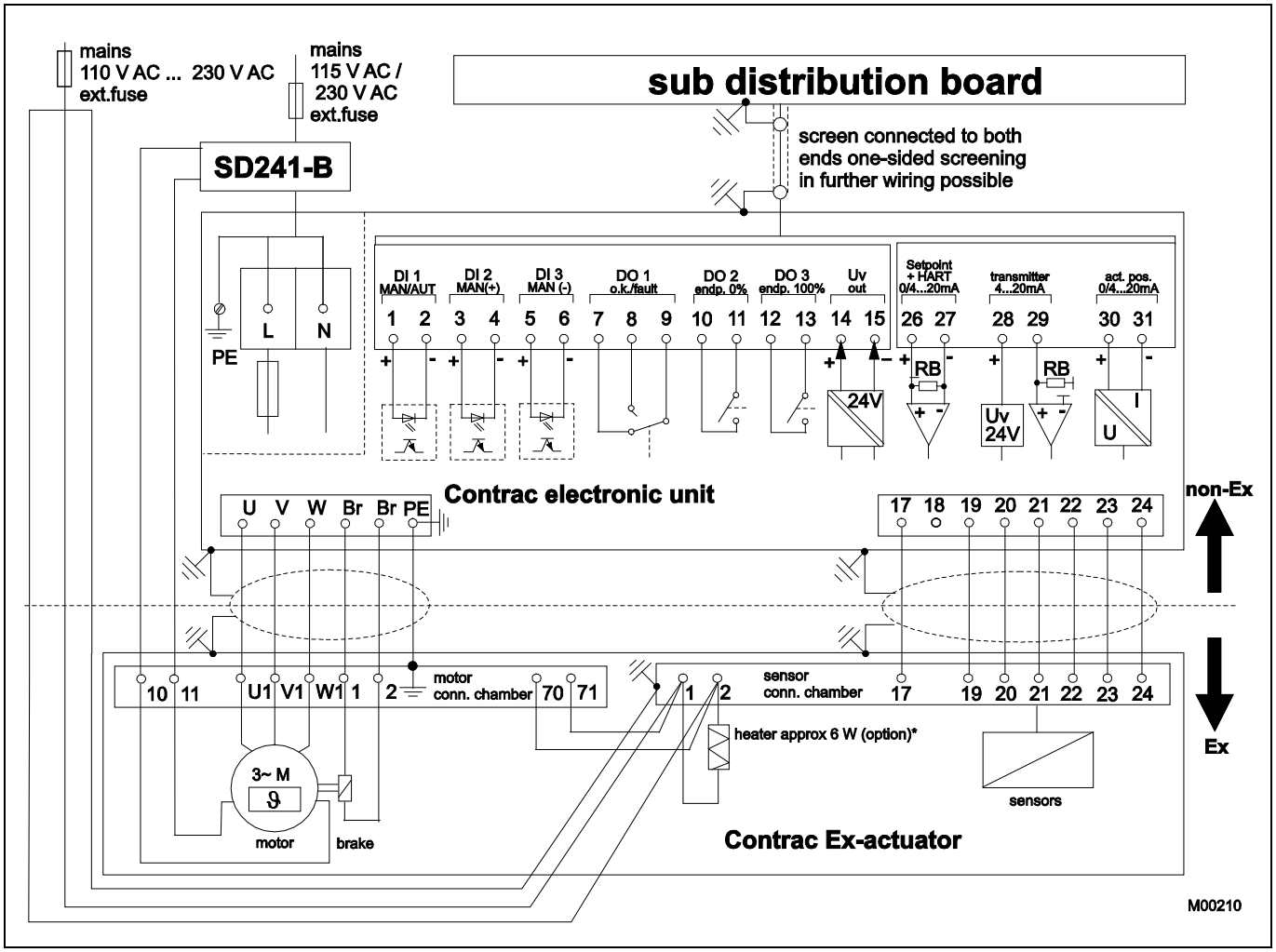


Fig. 3 Electrical connection: Ex actuator analog / digital

Important
* For separate heat supply, protect the heater with 2 … max. 6 A medium time-lag fuses (e.g., Neozed D01CE14).

Installation information on the cable harness for actuators in Ex design
The electrical connection between the Contrac electronic unit and the Contrac actuator can be established using the cable set (order code 695). The cable harness is not part of the Ex prototype test certificate and must therefore be tested for safety-relevant functionality within the complete installation by the installer or operator.
If the specified cable harness does not meet all safety-relevant requirements, the proper installation material must be used.
For the specified motor connecting cable, the screen must be connected at both ends and grounded.

4. 4 Ex actuators; PROFIBUS DP

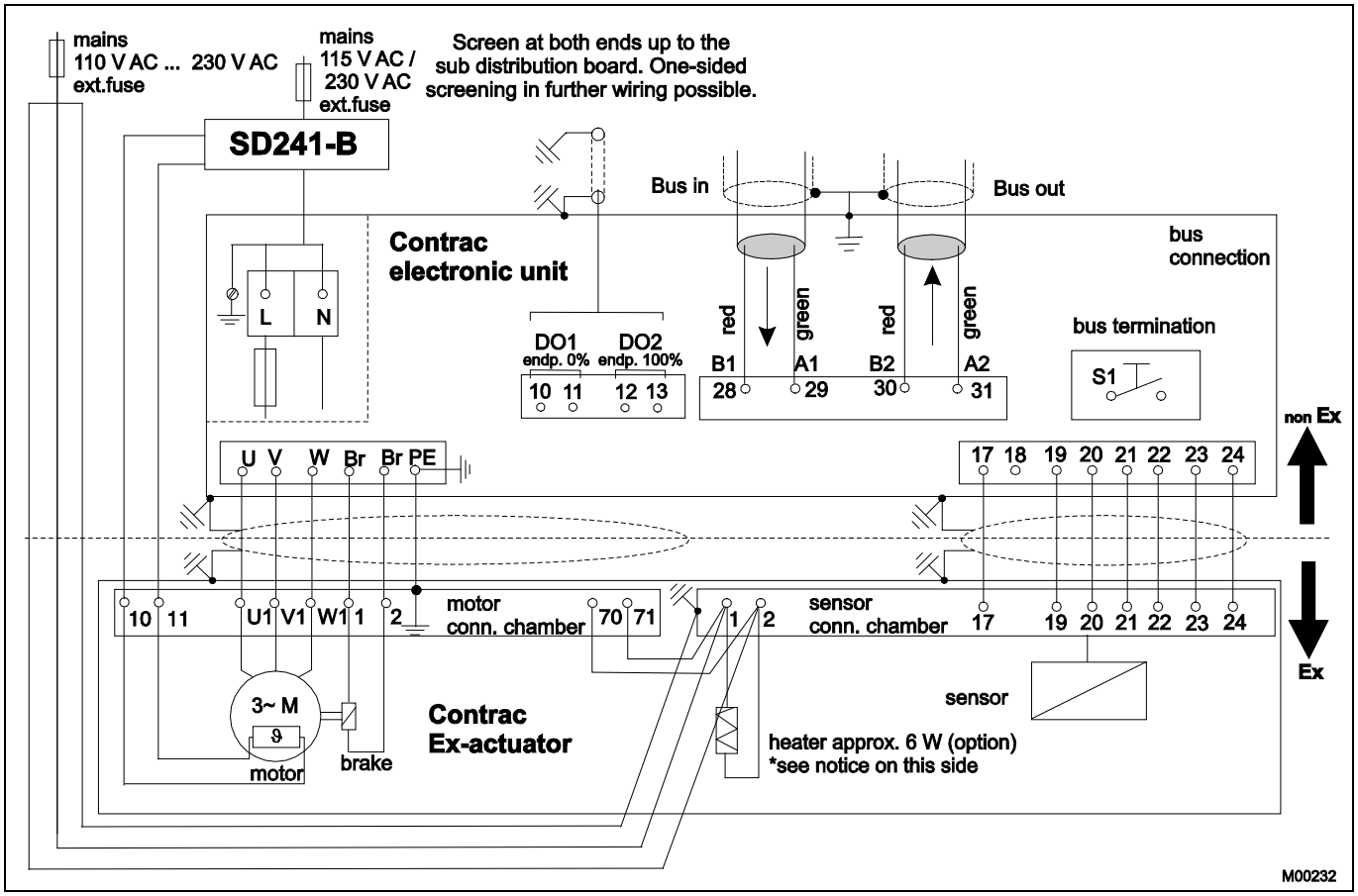


Fig. 4 Electrical connection: PROFIBUS DP option

Important
* For separate heat supply, protect the heater with 2 … max. 6 A medium time-lag fuses (e.g., Neozed D01CE14).

Installation information on the cable harness for actuators in Ex design
The electrical connection between the Contrac electronic unit and the Contrac actuator can be established using the cable set (order code 695). The cable harness is not part of the Ex prototype test certificate and must therefore be tested for safety-relevant functionality within the complete installation by the installer or operator.
If the specified cable harness does not meet all safety-relevant requirements, the proper installation material must be used.
For the specified motor connecting cable, the screen must be connected at both ends and grounded.

5 Dimensions

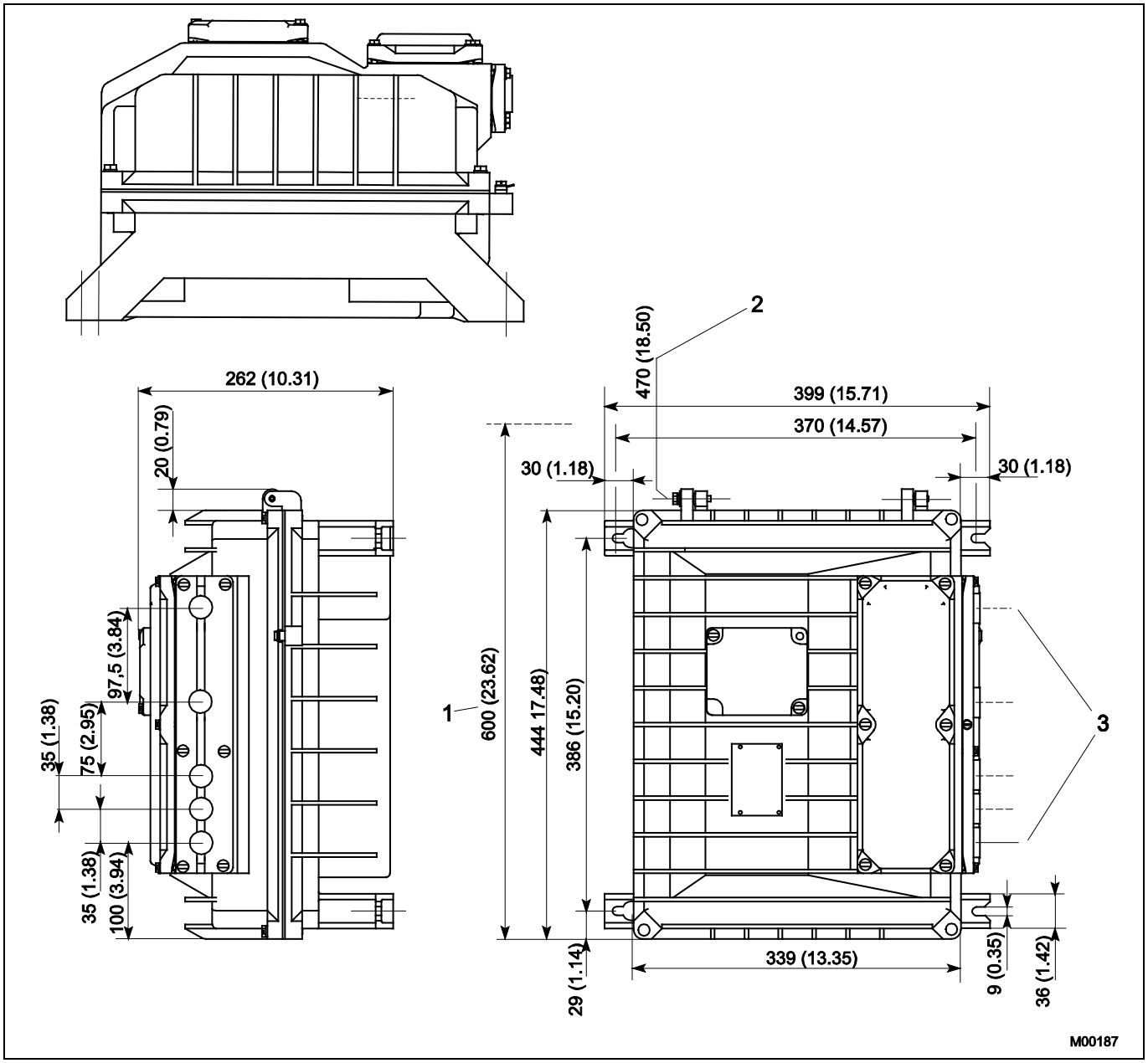


Fig. 5: Dimensions in mm (inch)

1 front section open, rotated 90°
2 rotational radius
3 cable entry thread

6 Ordering information

6.1 Electronic Unit for Standard Actuators

	Main ordering information								Additional ordering information
Version number	1 – 7	8-11	12-14	15-17	18-20	21-23	24-26	27-29	XXX
EBN861 Electronic Unit for Standard Actuators, for field installation	**V68861A**	**XXXX**	**XXX**	**XXX**	**XXX**	**XXX**	**XXX**	**XXX**	**XXX**
Suitable for									
Linear Actuator RSD50-10,0/120		3073							
Linear Actuator RSD50-10,0/300		9173							
Linear Actuator RSD100-10,0/150		2174							
Linear Actuator RSD100-10,0/300		9174							
Linear Actuator RSD200-5,0/180		5475							
Linear Actuator RSD200-5,0/300		9175							
Part-Turn Actuator RHD2500-10		0115							
Part-Turn Actuator RHD4000-10		0116							
Part-Turn Actuator RHD8000-12		0170							
Part-Turn Actuator RHD16000-30		0118							
Supply Voltage									
230 V AC 1 Ph			380						
Frequency									
50 Hz				382					
60 Hz				383					
Digital Communication									
RS 232					384				
RS 232 + HART					385				
PROFIBUS DP					386				
PROFIBUS DPV1					387				
Electrical Connection to Actuator									
Without cable (plug at standard actuator, terminal connection at Ex actuator)						335			
With 5 m (16 ft) cable end and 24-pole plug						690			
With 10 m (32 ft) cable end and 24-pole plug						691			
With 20 m (65 ft) cable end and 24-pole plug						692			
Ambient Temperature Range of Actuator									
-30 ... 50 °C (-20 ... 130 °F)							341		
-10 ... 65 °C (15 ... 150 °F)							344		
Settings of Electronic Unit									
Standard settings (see technical data)								390	
Customer-specific settings (see data sheet 10/68-2.40 EN)								391	
Electrical Connection Thread									
Set NPT adapter (junction metric / NPT thread)									680
Set PG adapter (junction metric / PG thread)									681
Anti-condensation Heater in Actuator "ON"									
Anti-condensation heater in actuator "ON"									359

	Main ordering information								Additional ordering information
Version number	1 – 7	8-11	12-14	15-17	18-20	21-23	24-26	27-29	XXX
EBN861 Electronic Unit for Standard Actuators, for field installation	**V68861A**	**XXXX**	**XXX**	**XXX**	**XXX**	**XXX**	**XXX**	**XXX**	**XXX**
Identification on Data Label									
(Alphanumeric, max. 32 characters)									295
Data Label with US Units									
Data label with US units									253
F. No. of associated Actuator on Data Label of Electronic Unit									
F. No. of associated actuator on data label of electronic unit (Available only as "Special Requirement")									297
Factory Certificate 2.1 acc. to EN 10204									
Factory certificate 2.1 acc. EN 10204									291
Certificate 3.1 acc. to EN 10204									
Certificate 3.1 acc. EN 10204									292
Operating Instruction									
German									Z1D
English									Z1E
Portuguese									Z1P
Italian									Z1I
French									Z1F
Positioner / Controller Function									
Positioner function									238
Process controller function									239

6.1.1 Accessories

Accessories	Order number
RHD / RSD / PME / LME Save & Restore tool ECOM700, for Contrac power electronics with software version >= 2.00	3KXE911100L0001
RHD(E) / RSD(E) / PME / LME PC connection cable, 3 m cable with 9-pole sub-D plug and 9-pole sub-D socket	746349

6.2 Electronic Unit for Ex-Actuators

	Main ordering information								Additional ordering information
Version number	1 – 7	8-11	12-14	15-17	18-20	21-23	24-26	27-29	XXX
EBN861 Electronic Unit for Ex-Actuators, for field installation	**V68861A**	**XXXX**	**XXX**	**XXX**	**XXX**	**XXX**	**XXX**	**XXX**	**XXX**
Suitable for									
Linear Actuator RSDE50-10,0/120		3084							
Linear Actuator RSDE50-10,0/300		9184							
Part-Turn Actuator RHDE2500-10		0159							
Part-Turn Actuator RHDE4000-10		0160							
Part-Turn Actuator RHDE8000-15		0168							
Part-Turn Actuator RHDE16000-30		0169							
Supply Voltage									
230 V AC 1 Ph			380						
Frequency									
50 Hz				382					
60 Hz				383					
Digital Communication									
RS 232					384				
RS 232 + HART					385				
PROFIBUS DP					386				
PROFIBUS DPV1					387				
Electrical Connection to Actuator									
Without cable (plug at standard actuator, terminal connection at Ex actuator)						335			
With cable set (specify length) (Additional cost: 32.30 Euro per m)						695			
Ambient Temperature Range of Actuator									
-25 ... 60 °C (-15 ... 140 °F) (Only for part turn actuators Ex)							346		
-30 ... 40 °C (-22 ... 104 °F) (Only for part turn actuators Ex)							347		
-20 ... 60 °C (-4 ... 140 °F) (Only for linear actuators Ex)							348		
Settings of Electronic Unit									
Standard settings (see technical data)								390	
Customer-specific settings (see data sheet 10/68-2.40 EN)								391	
Electrical Connection Thread									
Set NPT adapter (junction metric / NPT thread)									680
Set PG adapter (junction metric / PG thread)									681
Anti-condensation Heater in Actuator "ON"									
Anti-condensation heater in actuator "ON"									359

	Main ordering information								Additional ordering information
Version number	1 – 7	8-11	12-14	15-17	18-20	21-23	24-26	27-29	XXX
EBN861 Electronic Unit for Ex-Actuators, for field installation	**V68861A**	**XXXX**	**XXX**	**XXX**	**XXX**	**XXX**	**XXX**	**XXX**	**XXX**
Identification on Data Label									
(Alphanumeric, max. 32 characters)									295
Data Label with US Units									
Data label with US units									253
F. No. of associated Actuator on Data Label of Electronic Unit									
F. No. of associated actuator on data label of electronic unit (Available only as "Special Requirement")									297
Factory Certificate 2.1 acc. to EN 10204									
Factory certificate 2.1 acc. EN 10204									291
Certificate 3.1 acc. to EN 10204									
Certificate 3.1 acc. EN 10204									292
Operating Instruction									
German									Z1D
English									Z1E
Russian									Z1R
Positioner / Controller Function									
Positioner function									238
Process controller function									239

6.2.1 Accessories

Accessories	Order number
RHD / RSD / PME / LME Save & Restore tool ECOM700, for Contrac power electronics with software version >= 2.00	3201110
RHD(E) / RSD(E) / PME / LME PC connection cable, 3 m cable with 9-pole sub-D plug and 9-pole sub-D socket	746349

Notes

Notes

Contact us

ABB Limited
Process Automation
Salterbeck Trading Estate
Workington, Cumbria
CA14 5DS
UK
Tel: +44 (0)1946 830 611
Fax: +44 (0)1946 832 661

ABB Inc.
Process Automation
125 E. County Line Road
Warminster, PA 18974
USA
Tel: +1 215 674 6000
Fax: +1 215 674 7183

ABB Automation Products GmbH
Process Automation
Schillerstr. 72
32425 Minden
Germany
Tel: +49 571 830-0
Fax: +49 571 830-1806

www.abb.com/actuators

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