

# LME620 DATASHEET

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# LME620-AI/-AN (Contrac) Electrical Linear Actuator



For continuous positioning,  
Rated force 4 kN (900 lbf),  
With integrated electronics or for use with separate  
electronic unit

Electrical actuator for continuous positioning or step  
control

Stallproof without the need of position or torque  
dependent switch-off

Sturdy gear unit with highly efficient design

Internal rotary-linear conversion

Hand wheel for emergency operation

Integrated sensors for position and temperature

Voltage supply 115 V AC or 230 V AC only via special  
power electronics

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## 1 Concept

Compact actuator for the operation of final control elements with preferably linear movement. The actuator thrust rod transfers the force directly to the final control element.

A continuous power electronic unit controls the actuator. The electronic unit serves as the interface between actuator and control system.

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



### Note

The ANSI information appears in parentheses after the SI information.

## 2 Technical data

### 2.1 Actuator

Model	LME620-AN; LME620-AI
Rated force	4 kN (900 lbf), adjustable to 0.5 / 0.75 or 1x rated force
Starting force	1.2 x rated force (break-away torque in end positions for short time 2 x rated force)
Rated speed	2 mm/s (12.7 s/inch) (adjustable from 0.1 mm/s (254 s/inch) to 2 mm/s (12.7 s/inch))
Stroke	Min. 0 ... 12 mm (0 ... 0.47 inch) Max. 0 ... 60 mm (0 ... 2.36 inch)
Associated electronic unit (data sheet)	LME620-AI: integrated electronic unit LME620-AN: Designed for field installation: EAN823 (10/68-8.26-DE) Designed for rack installation: EAS822 (10/68-8.23-DE)
Motor	24 V 3~ asynchronous motor for operation with electronic unit EAN823 or EAS822
Sensors	Position and temperature sensor always available

### 2.2 Electronic unit

(for LME620-AI only)

#### 2.2.1 Supply

Supply voltage	115 V AC (94 V ... 130 V) or 230 V AC (190 V ... 260 V); 47.5 ... 63 Hz; 1Ph
Current (electronic unit) (115 V AC / 230 V AC) max [A] (positioning)	1.0 / 0.5 (approx. 40 ... 50% of $I_{max}$ )
Actuators in low temperature design	1.4 / 0.7 (approx. 40 ... 50% of $I_{max}$ )
External fuse	16 A; time-lag

#### 2.2.2 Conventional communication

Analog input	0 / 4 ... 20 mA
Analog output	0 / 4 ... 20 mA, galvanically isolated
3 digital inputs, BE 1 ... BE 3 (DI 1 ... DI 3)	Digital 0: -3 ... 5 V or open, galvanically isolated Digital 1: 12 V ... 35 V, galvanically isolated
3 digital outputs, BA 1... BA 3 (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	Behavior in 0/100% end position: hold with rated force set point function: linear, setpoint = position value set point input: 4 ... 20 mA function selection: positioner, parameter: setpoint actual value: 4 ... 20 mA digital input: BE 1 (DI 1) M/A selection; BE 2 / BE 3 (DI 2 / DI 3) manual intervention +/- digital output: BA 1 (DO 1) ready for operation; BA 2 / BA 3 (DO 2 / DO 3) end position signal 0 / 100%
Voltage output $U_V$	24 V, 15 mA, galvanically isolated ; e.g., for scanning external contacts
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

## 2.3 PROFIBUS DP communication

PNO ID no.	0x9655 Actuators with DP/V0 communication (cyclical data traffic) 0x09EC Actuators with DP/V1 communication (cyclical and acyclical data traffic)
Communications 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	<ul style="list-style-type: none"> <li>- 93.75 kbit/s</li> <li>- 187,5 kbit/s</li> <li>- 500 kbit/s</li> <li>- 1500 kbit/s</li> </ul> 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 Functional block 1 Transducer block 1 Physical block
Fail Save	Failsafe function is supported. Configurable function for downtime of bus communication <ul style="list-style-type: none"> <li>- Lock in last position</li> <li>- Drive to safety position</li> <li>- Rules with last effective setpoint</li> </ul> Adjustable time delay.
Modules for cyclical communication	8 standards-compliant modules and 2 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
Acyclical communication	Full parametrization and configurability via Master Class 2 and DTM
Default settings	Behavior in 0/100% end position: Hold with rated torque / force Setpoint function: Linear, setpoint = position value Setpoint input: Digital Function selection: Positioner, parameter: setpoint Actual value: Digital
Digital outputs, BA 1 and BA 2 (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 settings: BA 1 (DO 1) end position signal 0% BA 2 (DO 2) ready for operation 100%
Individual settings	See data sheet 10/68-2.40 or upon request

\*Full description of communication modules, see parametrization and configuration instructions 45/68-10 EN

## 2.4 General information

	LME620-AI (integrated electronic unit)	LME620-AN (separate electronic unit)
Operating mode	S9 - 100%; stallproof acc. to IEC 60034-1 / EN 60034-1	
Protection Class	IP 66	
Humidity	≤ 95% average; condensation not permitted	
Ambient temperature	-10 ... 55 °C (15 ... 130 °F) -25 ... 55 °C (-15 ... 130 °F)	-10 ... 65 °C (15 ... 150 °F) -25 ... 55 °C (-15 ... 130 °F)
Mounting position	any position; preferably IMB 3 acc. to IEC 60034-7 / EN 60034-7	
Coating	2-layer component epoxy (RAL 9005, black)	
Anti-condensation heater	-	Optional, separate power supply or power feed from Contrac electronic unit
Power supply for motor and sensors	Only via Contrac electronic unit (refer to the data sheet for the electronic unit)	
Cable between actuator and electronic unit	-	Select from 5 m (16 ft), 10 m (32 ft) or 20 m (65 ft)  max. 30 m (98 ft) for electronic unit EAN823 max. 480 m (1575 ft) for electronic unit EAS822  (read the data sheet for the electronic unit)
Weight; approx.	approx. 24 kg (53 lbs)	approx. 20 kg (44 lbs)

## 2.5 24-pole plug on the actuator

		Crimp pins	Terminals (Option)
LME620-AN	Cable gauge	Motor, heater: 1.5 mm <sup>2</sup> (16 AWG) Signals: 0.5 mm <sup>2</sup> (20 AWG)	Motor, heater: 2.5 mm <sup>2</sup> (14 AWG) Signals: 2.5 mm <sup>2</sup> (14 AWG)
	Contact surface	Gold-plated	Motor, signal: Gold-plated Heater: Silver-plated
LME620-AI	Cable gauge	Mains: 2.5 mm <sup>2</sup> (14 AWG) Signals: 0.5 mm <sup>2</sup> (20 AWG)	Mains: 2.5 mm <sup>2</sup> (14 AWG) Signals: 2.5 mm <sup>2</sup> (14 AWG)
	Contact surface	Gold-plated	Mains: Silver-plated Signals: Gold-plated

## 2.6 Tapped holes for cable glands

Tapped holes for cables	optional adapters*	
M20 x 1.5 (2x)	PG 16 (2x)	NPT ½" (2 x)
M25 x 1.5 (1 x)	PG 21 (2x)	NPT ¾" (1 x)

\* Adapter for PG or NPT thread must be ordered separately

### 3 Electrical connection

#### 3.1 LME620-AI (integrated electronic unit)

##### 3.1.1 Analog / digital

**i**

**Note**

The electrical connection is provided by a 24-pole plug on the actuator.

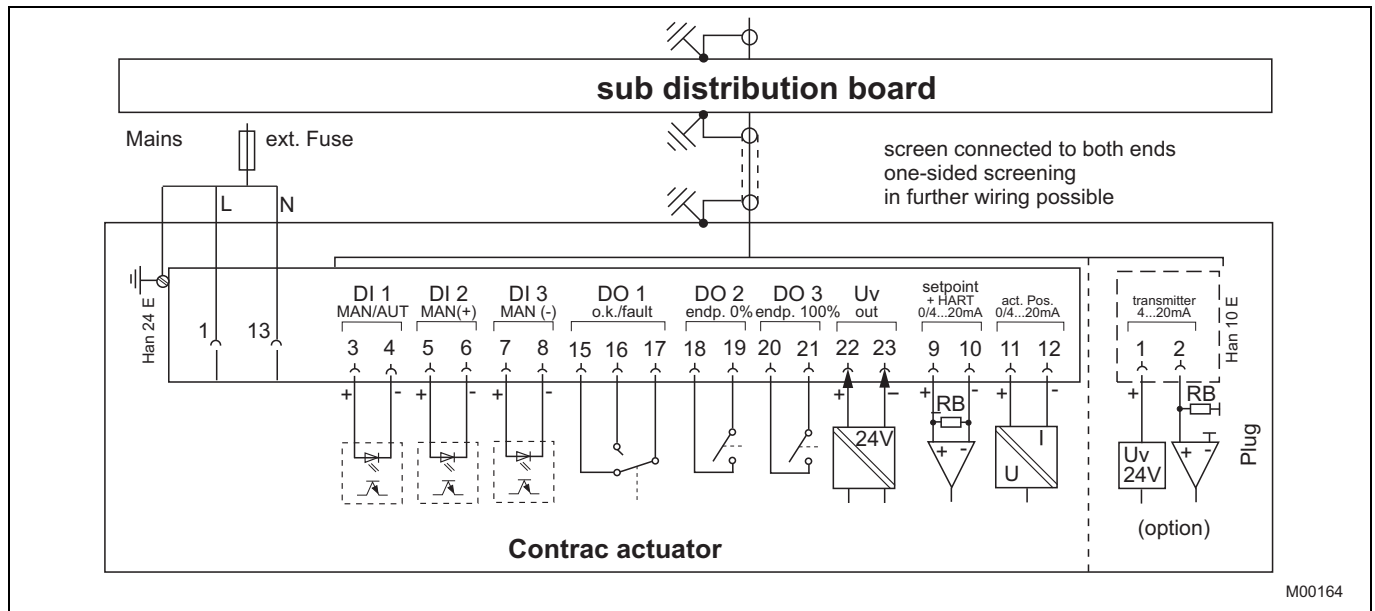


Fig. 1

##### 3.1.2 PROFIBUS DP

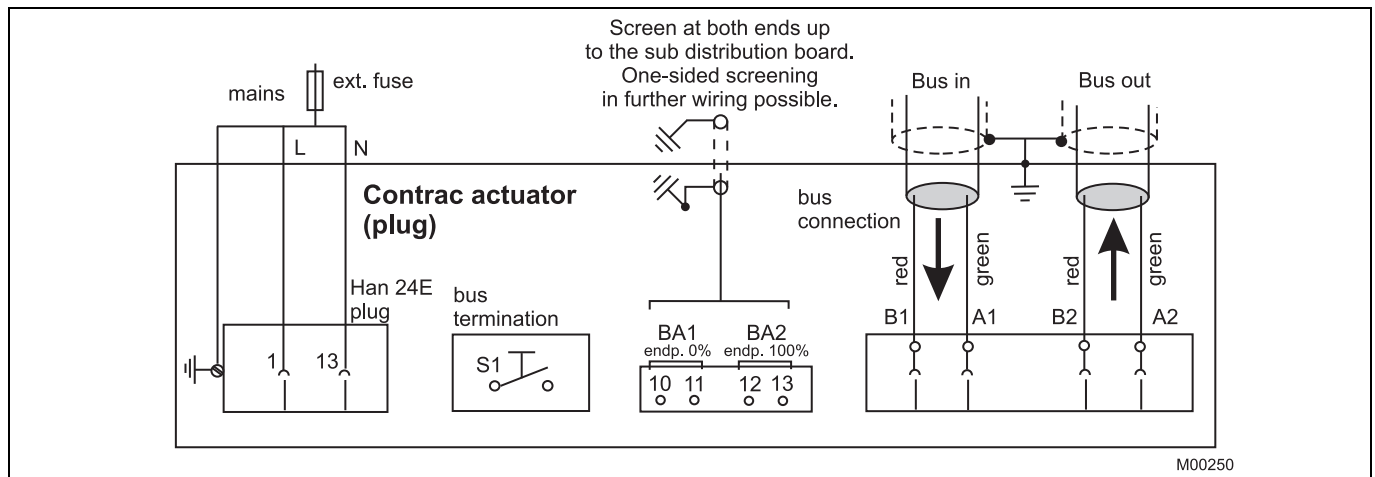


Fig. 2

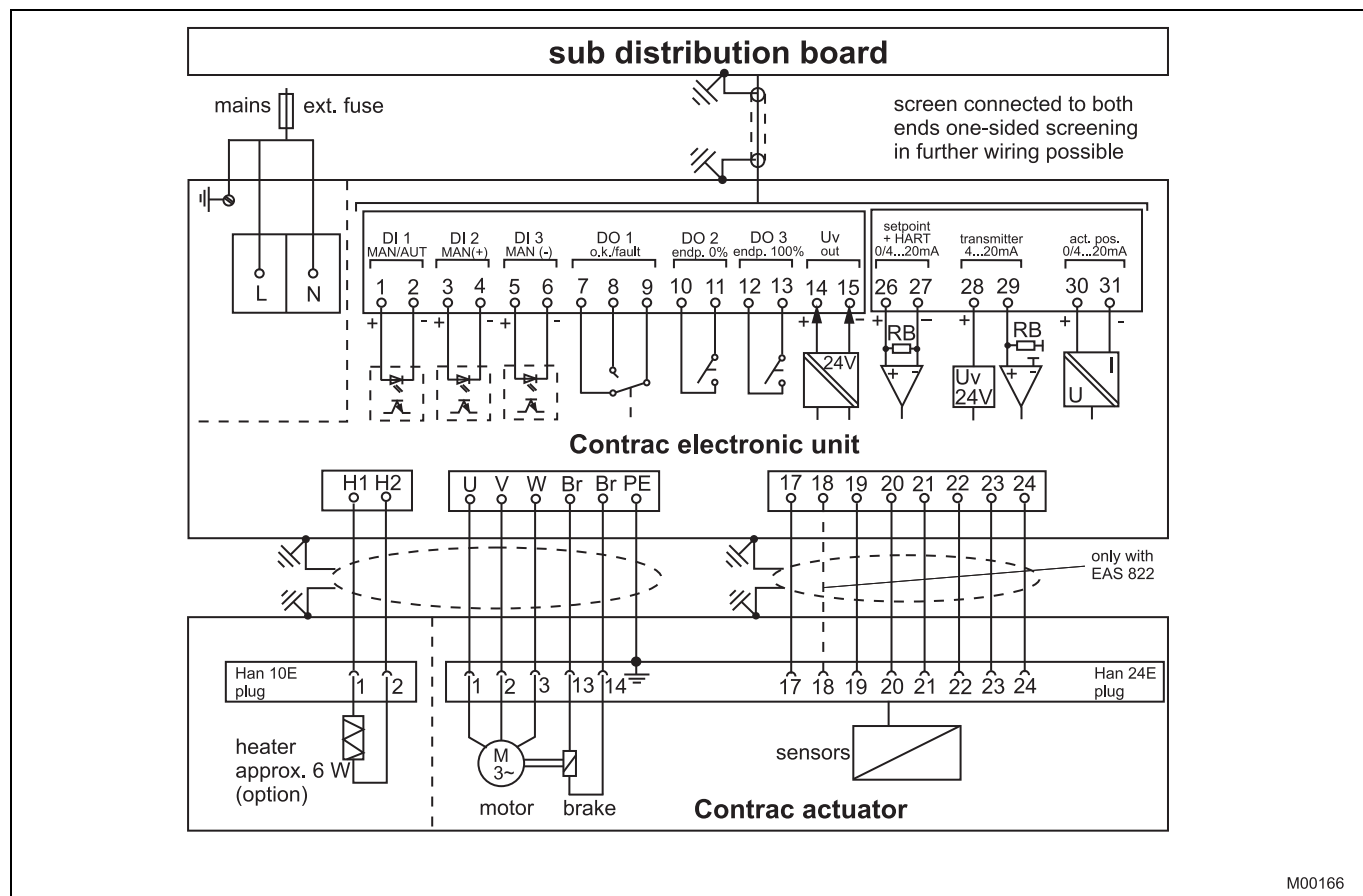
### 3.2 LME620-AN with power electronic unit EAN823 (Contrac)

#### 3.2.1 Analog / digital



#### Note

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



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Fig. 3



## 3.2.2 PROFIBUS DP

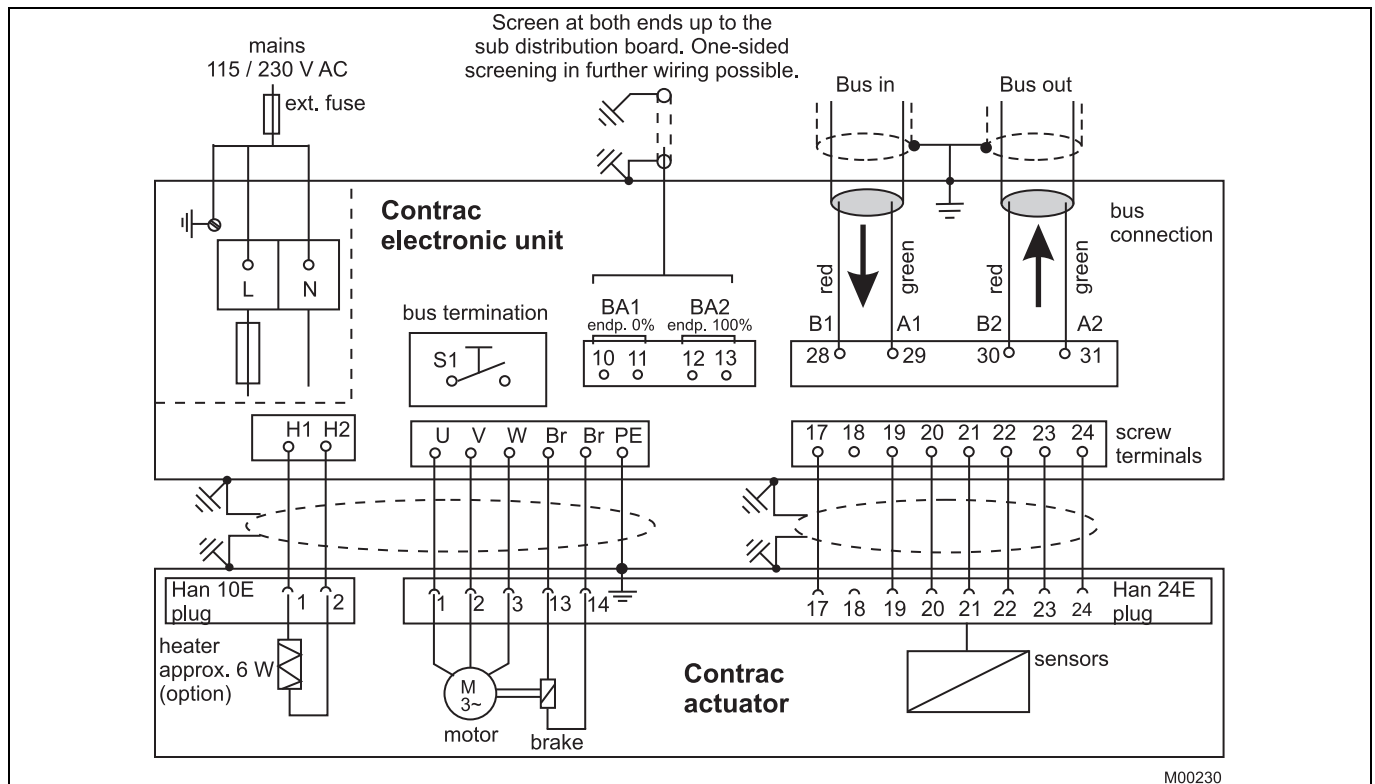


Fig. 4

### 3.3 LME620-AN with power electronic unit EAS822 (Contrac)

#### 3.3.1 Analog / digital

**i**

**Note**

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

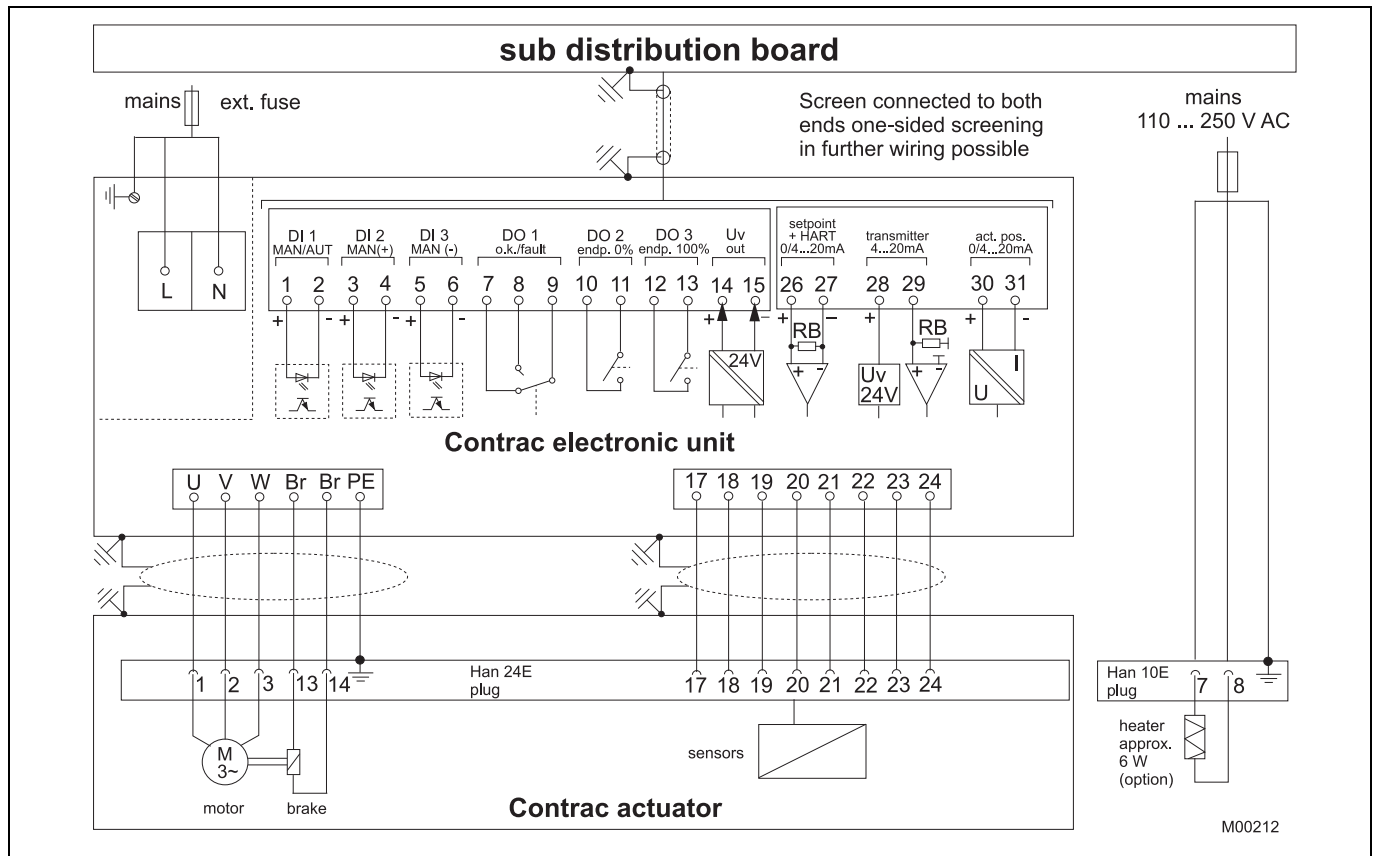


Fig. 5

## 4 Dimensions

### 4.1 Linear actuator

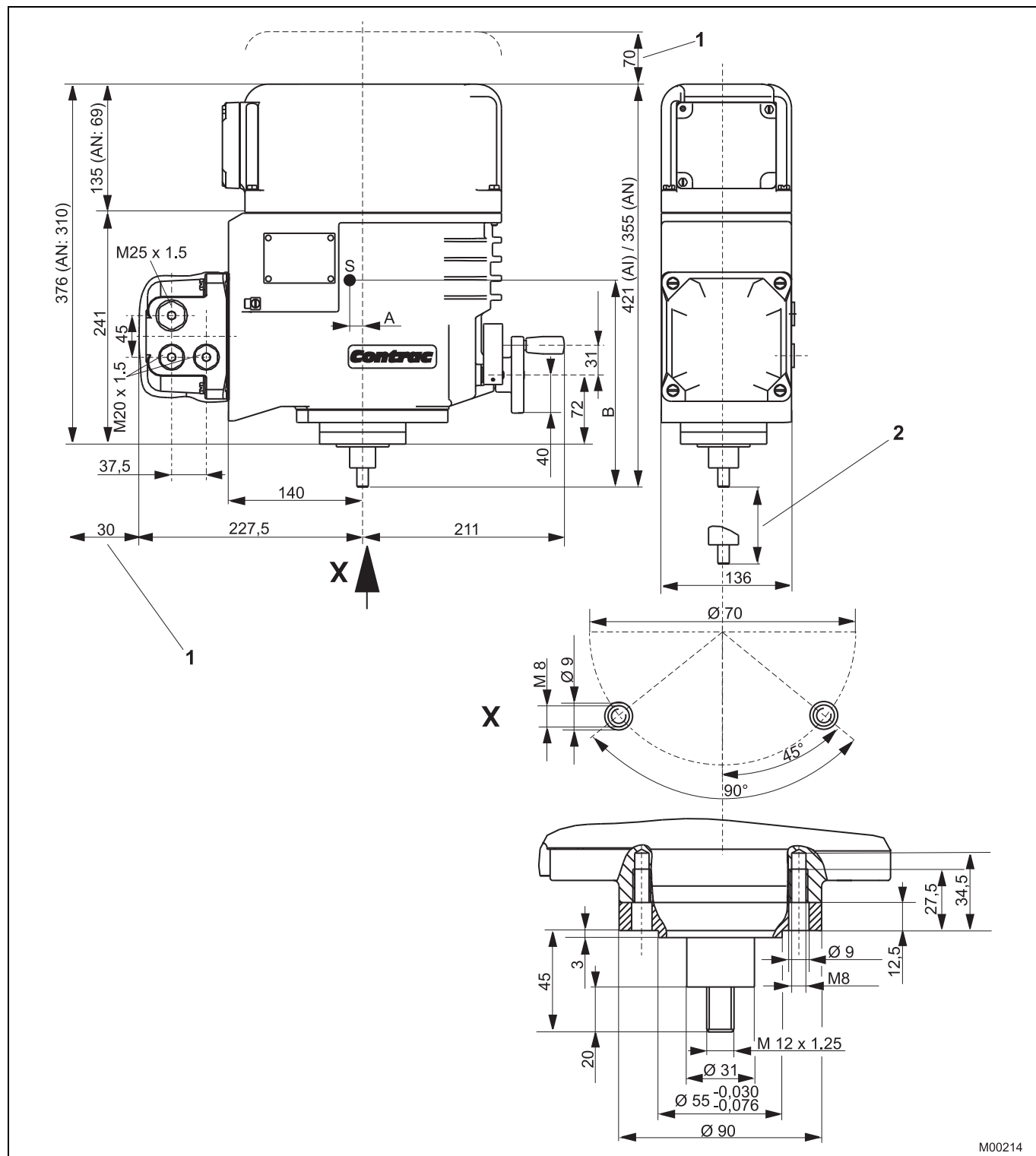


Fig. 6 Dimensions in mm

1 Space for removal

2 Max. 60 mm stroke

S = Center of gravity

	LME620-AI	LME620-AN
A	3 mm	0 mm
B	158 mm	131 mm

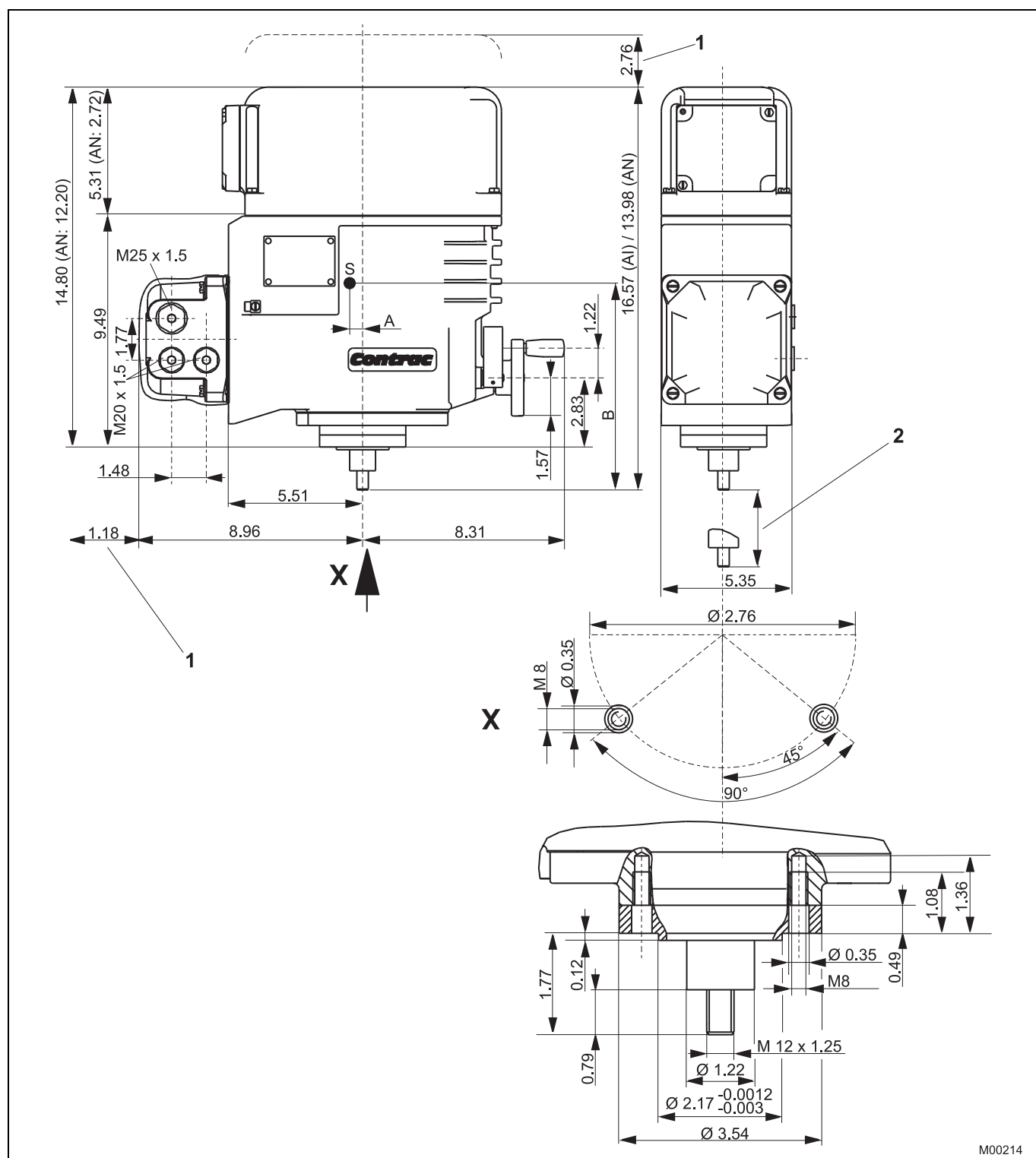


Fig. 7 Dimensions in mm

1 Space for removal

2 Max. 2.36 inch stroke

**S = Center of gravity**

	LME620-AI	LME620-AN
<b>A</b>	0.12 inch	0 inch
<b>B</b>	6.22 inch	5.16 inch

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