

- For operation of air control dampers in HVAC system
- Torque: 5Nm
- Nominal voltage: AC/DC 24V
- Control: Open/Close or 3-point

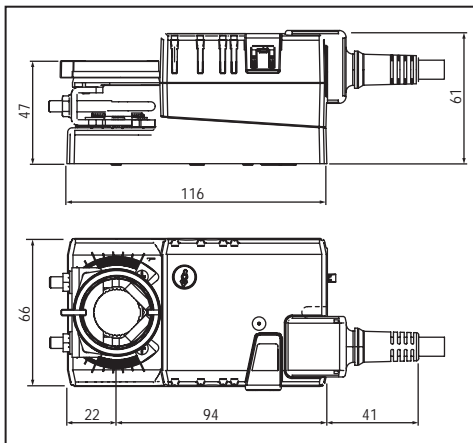


Technical data

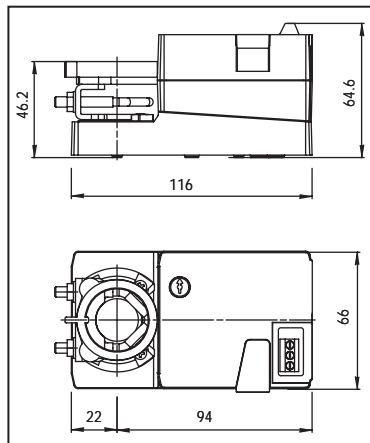
|                            |   |   |
|----------------------------|---|---|
| <b>Electrical data</b>     | Nominal voltage   | AC 24V 50/60Hz, DC 24V  |
|                            | Nominal voltage range   | AC/DC 19.2...28.8V  |
|                            | Power consumption   | 1W running / 0.2W @ holding   |
|                            | Wire / transformer sizing   | 1.5VA   |
|                            | Auxiliary switch LMU24-S  | 1 SPDT, 1mA...3(0.5)A, AC 250V , adjustable   |
|                            | Connection: Motor LMU24(-S/-F)<br>Auxiliary switch LMU24-S<br>Terminals LMU24-T | Cable 1m, 3x0.75mm <sup>2</sup><br>Cable 1m, 3x0.75mm <sup>2</sup><br>Max. 3x1.5mm <sup>2</sup> |
| <b>Functional data</b>     | Torque  | 5Nm   |
|                            | Direction of rotation   | Selectable by switch  |
|                            | Manual override   | Gearing latch disengaged by pushbutton, self-resetting  |
|                            | Angle of rotation   | Max. 95°, adjustable by mechanical stops  |
|                            | Running time  | 150s for 95°  |
|                            | Sound power level   | Max. 35dB(A)  |
| <b>Working conditions</b>  | Position indication   | Mechanical, remote visible  |
|                            | Protection class  | III (safety low voltage)  |
|                            | Degree of protection: LMU24(-S/-F)<br>LMU24-T                                   | IP54 in any directions<br>IP20  |
|                            | EMC   | CE according to 89/336/EEC  |
|                            | Mode of operation   | Type 1 to EN 60730-1  |
|                            | Ambient temperature   | -30...+50°C   |
| <b>Dimensions / weight</b> | Non-operation temperature   | -40...+80°C   |
|                            | Humidity test   | 95%RH, non condensing (EN 60730-1)  |
|                            | Maintenance   | Maintenance-free  |
|                            | Dimensions (L x W x H)  | See 'Dimensions'  |
|                            | Shaft length  | Min. 37mm   |
|                            | Shaft : LMU24(-T/S)<br>LMU24-F  | 6...20mm<br>8x8mm   |
| Weight                     | Approximately 500g  |   |

Dimensions [mm]

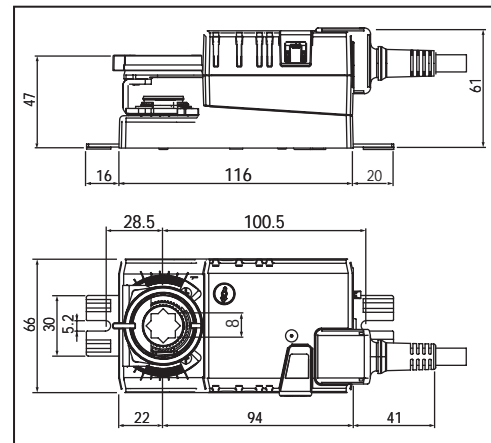
LMU24(-S)



LMU24-T



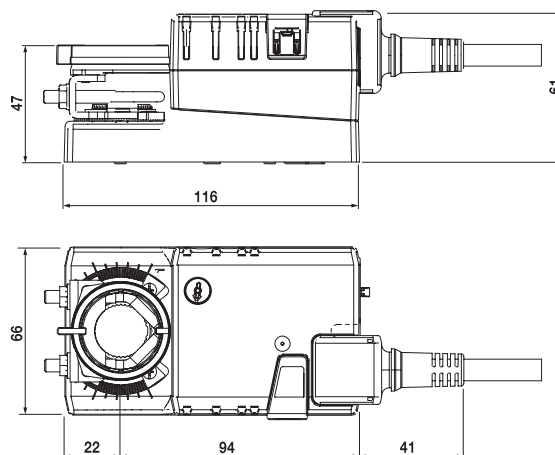
LMU24-F



- For operation of air control dampers in HVAC system
- Torque: 5Nm
- Nominal voltage: AC/DC 24V
- Control signal: DC 2(0)...10V
- Position feedback: DC 2...10V


**Technical data**

|                           |                            |  |
|---------------------------|----------------------------|--|
| <b>Electrical data</b>    | Nominal voltage            | AC 24V 50/60Hz, DC 24V                                 |
|                           | Nominal voltage range      | AC/DC 19.2...28.8V                                     |
|                           | Power consumption          | 1W @ running / 0.4W @ holding                          |
|                           | Wire/transformer sizing    | 2VA  |
| <b>Functional data</b>    | Connection                 | Cable 1m, 4x0.75mm <sup>2</sup>                        |
|                           | Torque                     | 5 Nm   |
|                           | Control signal             | DC 2(0)...10V (input impedance 100k Ω)                 |
|                           | Feedback signal            | DC 2...10V   |
|                           | Position accuracy          | ±5%  |
|                           | Direction of rotation      | Selectable by switch                                   |
|                           | Manual override            | Gearing latch disengaged by pushbutton, self-resetting |
|                           | Angle of rotation          | Max. 95°, adjustable by mechanical stops               |
|                           | Running time               | 150s for 95°   |
|                           | Sound power level          | Max. 35dB(A)   |
| <b>Working conditions</b> | Position indication        | Mechanical, remote visible                             |
|                           | Protection class           | III (safety low voltage)                               |
|                           | Degree of protection       | IP54 in any directions                                 |
|                           | EMC                        | CE according to 89/336/EEC                             |
|                           | Mode of operation          | Type 1 to EN 60730-1                                   |
|                           | Ambient temperature        | -30...+50°C  |
|                           | Non-operation temperature  | -40...+80°C  |
|                           | Humidity test              | 95%RH, non condensing (EN 60730-1)                     |
|                           | Maintenance                | Maintenance-free                                       |
|                           | <b>Dimensions / weight</b> | Dimensions (L x W x H)                                 |
| Shaft length              |                            | Min. 37mm  |
| Shaft                     |                            | ⌀ 6...20mm   |
| Weight                    |                            | 500g   |

**Dimensions [mm]**


- For operation of air control dampers in HVAC system
- Torque: 5Nm
- Nominal voltage: AC 100...240V
- Control: Open/Close or 3-point

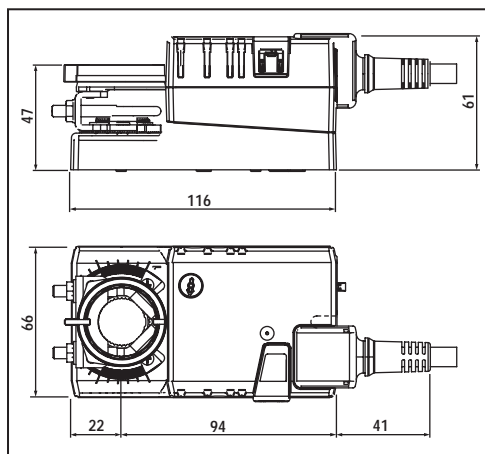


Technical data

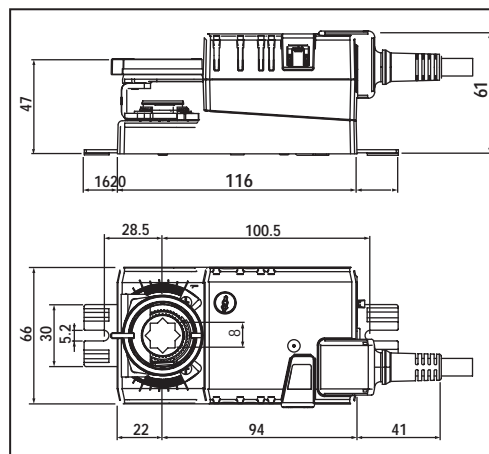
|                            |                           |  |
|----------------------------|---------------------------|--|
| <b>Electrical data</b>     | Nominal voltage           | AC 100...240V 50/60Hz  |
|                            | Nominal voltage range     | AC 85...265V   |
|                            | Power consumption         | 1.5W @ running / 0.5W @ holding                                      |
|                            | Wire/transformer sizing   | 3.5VA  |
|                            | Auxiliary switch LMU230-S | 1 SPDT, 1mA...3(0.5)A, AC 250V <input type="checkbox"/> , adjustable |
| <b>Functional data</b>     | Connection: Motor         | Cable 1m, 3x0.75mm <sup>2</sup>                                      |
|                            | Auxiliary switch LMU230-S | Cable 1m, 3x0.75mm <sup>2</sup>                                      |
|                            | Torque                    | 5 Nm   |
|                            | Direction of rotation     | Selectable by switch   |
|                            | Manual override           | Gearing latch disengaged by pushbutton, self-resetting               |
|                            | Angle of rotation         | Max. 95°, adjustable by mechanical stops                             |
|                            | Running time              | 150s for 95°   |
|                            | Sound power level         | Max. 35dB(A)   |
|                            | Position indication       | Mechanical, remote visible   |
|                            | <b>Working conditions</b> | Protection class   |
| Degree of protection       |                           | IP54 in any directions   |
| EMC                        |                           | CE according to 89/336/EEC   |
| Low voltage directive      |                           | CE according to 73/23/EEC  |
| Mode of operation          |                           | Type 1 to EN 60730-1   |
| Ambient temperature        |                           | -30...+50°C  |
| Non-operation temperature  |                           | -40...+80°C  |
| <b>Dimensions / weight</b> | Humidity test             | 95%RH, non condensing (EN 60730-1)                                   |
|                            | Maintenance               | Maintenance-free   |
|                            | Dimensions (L x W x H)    | See 'Dimensions'   |
|                            | Shaft length: LMU230(-S)  | Min. 37mm  |
|                            | LMU230-F                  | Min. 20mm  |
|                            | Shaft : LMU230(-S)        | ⌀ 6 ... 20mm   |
|                            | LMU230-F                  | 8x8mm  |
|                            | Weight                    | Approximately 550g   |

Dimensions [mm]

LMU230(-S)



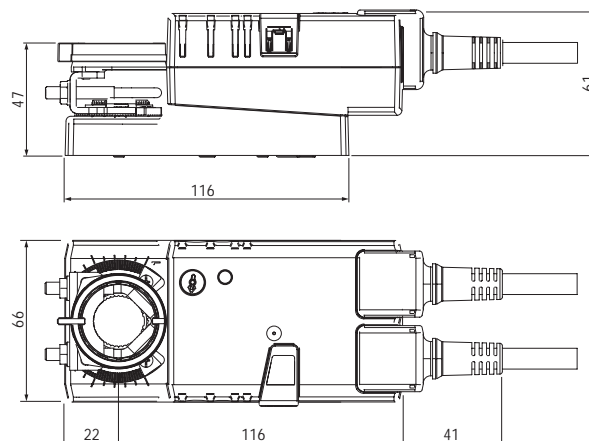
LMU230-F



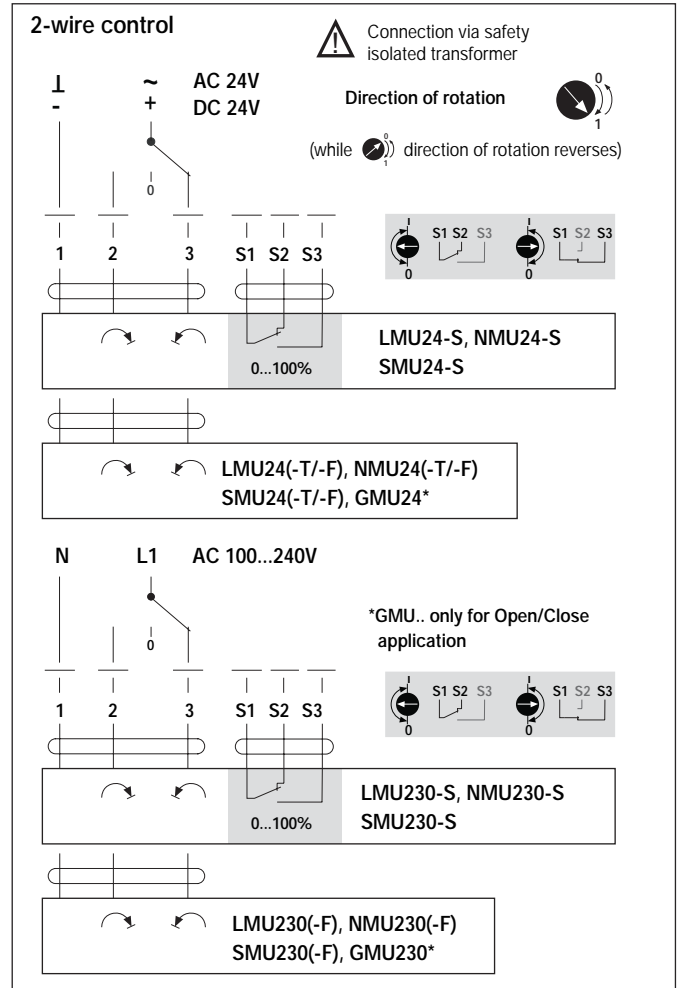
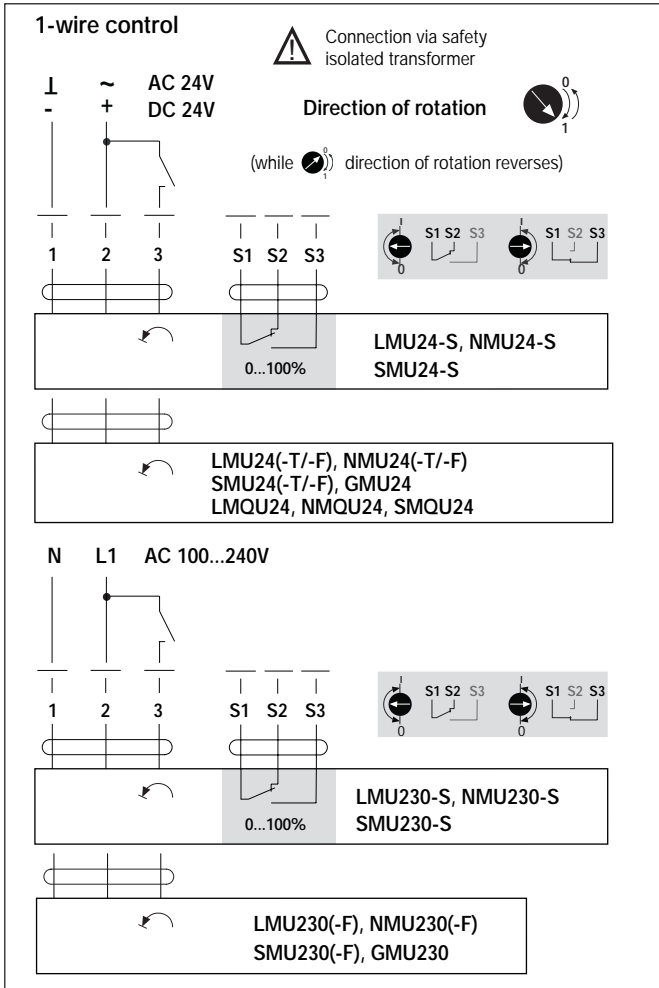
- For operation of air control dampers in HVAC system
- Torque: 5Nm
- Nominal voltage: AC 100...240V
- Control signal: DC 2(0)...10V
- Position feedback: DC 2...10V


**Technical data**

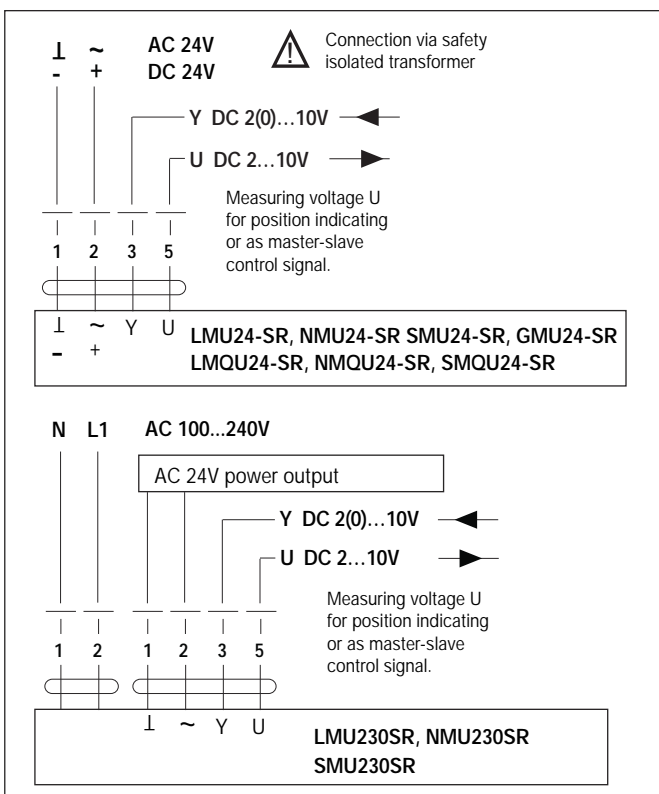
|                           |   |  |
|---------------------------|---|--|
| <b>Electrical data</b>    | Nominal voltage                           | AC 100...240V 50/60Hz  |
|                           | Nominal voltage range                     | AC 85...265V   |
|                           | Power consumption                         | 2.0W @ running / 1W @ holding                                      |
|                           | Wire/transformer sizing                   | 4VA  |
|                           | Connection cable: Power supply<br>Signals | Cable 1m, 2x0.75mm <sup>2</sup><br>Cable 1m, 4x0.75mm <sup>2</sup> |
| <b>Functional data</b>    | Torque                                    | 5Nm  |
|                           | Control signal                            | DC 2(0)...10V (input impedance 100kΩ)                              |
|                           | Feedback signal                           | DC 2...10V   |
|                           | Position accuracy                         | ±5%  |
|                           | Direction of rotation                     | Selectable by switch   |
|                           | Manual override                           | Gearing latch disengaged by pushbutton, self-resetting             |
|                           | Angle of rotation                         | Max. 95°, adjustable by mechanical stops                           |
|                           | Running time                              | 150s for 95°   |
|                           | Sound power level                         | Max. 35dB(A)   |
|                           | Position indication                       | Mechanical, remote visible   |
| <b>Working conditions</b> | Protection class                          | II (totally insulated) <input type="checkbox"/>                    |
|                           | Degree of protection                      | IP54 in any directions   |
|                           | EMC                                       | CE according to 89/336/EEC   |
|                           | Low voltage directive                     | CE according to 73/23/EEC  |
|                           | Mode of operation                         | Type 1 to EN 60730-1   |
|                           | Ambient temperature                       | -30...+50°C  |
|                           | Non-operation temperature                 | -40...+80°C  |
|                           | Humidity test                             | 95%RH, non condensing (EN 60730-1)                                 |
|                           | Maintenance                               | Maintenance-free   |
|                           | <b>Dimensions / weight</b>                | Dimensions (L x W x H)   |
| Shaft length              |   | Min. 37mm  |
| Shaft                     |   | ⌀ 6...20mm   |
| Weight                    |   | Approximately 700g   |

**Dimensions [mm]**


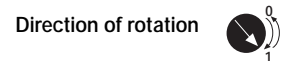
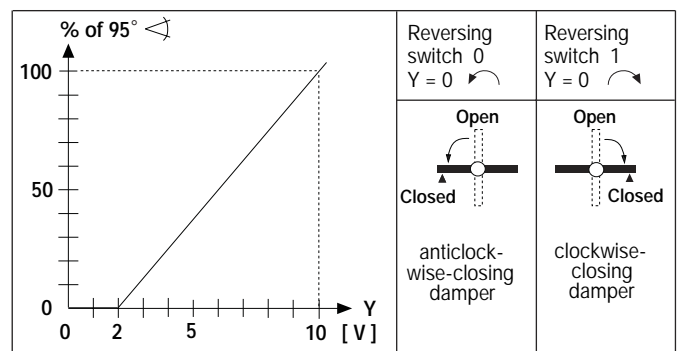
Wiring diagram: Open/Close actuators—Parallel connection possible, please note the performance data.










Wiring diagram: Modulating actuators—Parallel connection possible, please note the performance data.



Position - signal voltage



|  |  | Actuators |     |     |     |     |    |    |    |    |     |
|--|--|-----------|-----|-----|-----|-----|----|----|----|----|-----|
|  |  | CMU       | LMU | NMU | SMU | GMU | TF | LF | NF | AF | AFR |
|  <b>S..A..</b> Auxiliary switch, add-on<br><b>S1A..</b> 1 SPDT 3A (0.5A), AC 250V<br><b>S2A..</b> 2 SPDT 3A (0.5A), AC 250V  |  |           | •   | •   | •   | •   |    |    |    |    |     |
|  |  |           | •   | •   | •   | •   |    |    |    |    |     |
|  |  |           |     |     |     |     |    |    |    |    |     |
|  <b>P.A..</b> Feedback potentiometer, add-on<br><b>P140A..</b> 140Ω<br><b>P500A..</b> 500Ω<br><b>P1000A..</b> 1000Ω<br><b>P2800A..</b> 2800Ω<br><b>P5000A..</b> 5000Ω<br><b>P10000A..</b> 10000Ω |  |           | •   | •   | •   | •   |    |    |    |    |     |
|  |  |           | •   | •   | •   | •   |    |    |    |    |     |
|  |  |           | •   | •   | •   | •   |    |    |    |    |     |
|  |  |           | •   | •   | •   | •   |    |    |    |    |     |
|  |  |           | •   | •   | •   | •   |    |    |    |    |     |
|  |  |           | •   | •   | •   | •   |    |    |    |    |     |
|  <b>SGA24</b> Positioner for surface mounting<br>0...100%<br>Reversible operating range DC 0...10V or DC 2...10V  |  | 1)        | 1)  | 1)  | 1)  | 1)  | 1) | 1) | 1) | 1) | 1)  |
|  <b>SGR24</b> Positioner for surface mounting<br>0...100%<br>Reversible operating range DC 0...10V or DC 2...10V  |  | 1)        | 1)  | 1)  | 1)  | 1)  | 1) | 1) | 1) | 1) | 1)  |
|  <b>SGE24</b> Positioner for rack mounting<br>0...100%<br>Reversible operating range DC 0...10V or DC 2...10V  |  | 1)        | 1)  | 1)  | 1)  | 1)  | 1) | 1) | 1) | 1) | 1)  |
|  <b>SGF24</b> Positioner for front-panel mounting<br>0...100%<br>Reversible operating range DC 0...10V or DC 2...10V  |  | 1)        | 1)  | 1)  | 1)  | 1)  | 1) | 1) | 1) | 1) | 1)  |
|  <b>ZAD24</b> Digital position indicator for front-panel mounting<br>0...99%<br>Front size 72x72mm<br>Operating range DC 2...10V  |  | 1)        | 2)  | 2)  | 2)  | 2)  | 1) | 1) | 1) | 1) | 1)  |

1) For...SR  
 2) For...24-SR