



OpenAir™

Configured 6FU12xx-xDxxx-xxxx Air Damper actuators 6FU12xx-xLxxx-xxxx

Electronic motor-driven linear actuators for three-position and modulating control

- AC 24 V / AC 230 V
- Nominal force 125 N (6FU12xx-xDxxx-xxxx)
- Nominal force 250 N (6FU12xx-xLxxx-xxxx)
- Travel 60 mm, mechanical adjustable

Type-specific variations:

- Adjustable offset and span (Positioning signal)
- Position indicator
- Self-adaptation linear span
- 2 adjustable auxiliary switches

Remarks

This data sheet provides a brief overview of these actuators. Please refer to the Technical Basics in document Z4664en for a detailed description as well as information on safety, engineering notes, mounting and commissioning.

Use

- For damper areas up to 0.8 m² (6FU12xx-xDxxx-xxxx) / 1.5 m² (6FU12xx-xLxxx-xxxx), friction-dependent.
- Suitable for modulating controllers (DC 0...10 V) or three-position controllers (e.g. rotary and linear dampers at air outlets).

Type summary

125 N	6FU1213-1Dxxx-xxx	6FU1213-6Dxxx-xxx	6FU1233-1Dxxx-xxx	6FU1233-6Dxxx-xxx	6FU1216-1Dxxx-xxx	6FU1216-3Dxxx-xxx
250 N	6FU1213-1Lxxx-xxx	6FU1213-6Lxxx-xxx	6FU1233-1Lxxx-xxx	6FU1233-6Lxxx-xxx	6FU1216-1Lxxx-xxx	6FU1216-3Lxxx-xxx
Control type	Three-position control				Modulating control	
Operating voltage AC 24 V	X	X			X	X
Operating voltage AC 230 V			X	X		
Positioning signal Y DC 0...10 V					X	
DC 0...35 V with characteristic function U _o , DU						X
Position indicator U = DC 0...10 V					X	X
Self-adaptation of linear span					X	X
Auxiliary switches (two)		X		X		
Linear direction switch					X	X




Functions

Type	6FU12x3-xD-xxx-xxx 6FU12x3-xL-xxx-xxx	6FU1216-xDxxx-xxx 6FU1216-xLxxx-xxx
Control type	Three-position control	Modulating control
Positioning signal with adjustable characteristic function		DC 0...35 V at Offset $U_0 = 0...5$ V Span $DU = 2...30$ V
Linear travel direction	The direction of linear travel depends on...	
	...the type of control. With no power applied, the actuator remains in the respective position.	...the DIL switch setting outward / inward.
Position indication		Position indicator: Output voltage $U = DC 0...10$ V is generated proportional to the linear travel. U depends of DIL switch setting.
Auxiliary switch	The switching points for auxiliary switches A and B can be set independent of each other in increments of 3.4 between 3.4 and 57.1 mm.	
Self-adaptation of linear span		When self-adaptation is active, the actuator automatically determines the mechanical end positions of the linear span and maps the characteristic function (U_0 , DU) to the calculated linear span.
Linear limitation	Stepless limitation between 0 and 60 mm for the linear travel is possible by means of a clamp from the linear/rotary set ASK55.2	

Ordering

<i>Note</i>	Auxiliary switches cannot be added in the field .
Accessories, spare parts	Accessories to functionally extend the actuators are available, e.g., various linear/rotary sets; see data sheet N4698 .

Technical data

 AC 24 V supply (SELV/PELV)	Operating voltage / Frequency	AC 24 V ± 20 % / 50/60 Hz	
	Power consumption	6FU1213-1D.. / 6FU1213-1L.. 2 VA / 1 W	
	Push rod moves	6FU1216-xD.. / 6FU1216-xL.. 3 VA / 2 W	
	Holding	1 W	
 AC 230 V supply	Operating voltage / Frequency	AC 230 V ± 10 % / 50/60 Hz	
	Power consumption	6FU1233-1D.. / 6FU1233-1L.. 2 VA / 1 W	
Function data	Nominal linear force	125 N (6FU12..D..) 250 N (6FU12..L..)	
	Maximum linear force	180 N (6FU12..D..) 350 N (6FU12..L..)	
	Maximum linear travel	60 mm	
	Runtime for 60 mm linear travel	150 s (50 Hz) / 125 s (60 Hz)	
	Positioning signal Y for 6FU1216-xDxxx-xxx 6FU1216-xLxxx-xxx	Input voltage Y (wires 8-2)	DC 0...10 V, intern limited of DC 10 V
Characteristic functions 6FU1216-3Dxxx-xxx 6FU1216-3Lxxx-xxx	Max. permissible input voltage	DC 35 V	
	Input voltage Y (wires 8-2)	DC 0...35 V	
	Non-adjustable characteristic function	DC 0...10 V	
	Adjustable characteristic function		
	Offset U _o	DC 0...5 V	
	Span DU	DC 2...30 V	
Position indicator for 6FU1216-xDxxx-xxx 6FU1216-xLxxx-xxx	Output voltage U (wires 9-2)	DC 0...10 V or DC 10...0 V	
	Max. output current	DC ± 1 mA	
 Auxiliary switches	Contact rating	6 A resistive, 2 A inductive	
	Voltage (no mixed operation AC 24 V / AC 230 V)	AC 24...230 V	
	Switching range for auxiliary switches	3.4...57.1 mm	
	Setting increments	3.4 mm	
Connection cables	Cross-section	0.75 mm ²	
	Standard length	0.9 m	
Degree of protection of housing	Degree of protection as per EN 60 529 (note mounting instructions)	IP 40	
Protection class	Insulation class	EN 60 730	
	AC 230 V, auxiliary switch	II	
Environmental conditions	Operation / Transport	EN 60721-3-3 / EN 60721-3-2	
	Temperature	- 32...+55 °C / - 32...+70 °C	
	Humidity (non-condensing)	< 95% r. F. / < 95% r. F.	
Norms and directives	Product safety: Automatic electrical controls for household and similar use	EN 60 730-2-14 (Type 1)	
	Electromagnetic compatibility (Application)	For residential, commercial and industrial environments	
	EU Conformity (CE)	6FU12xx-xDxxx-xxx	A5W00003842 ¹⁾
		6FU12xx-xLxxx-xxx	A5W00000176 ¹⁾
	RCM Conformity	6FU12xx-xDxxx-xxx	A5W00003843 ¹⁾
		6FU12xx-xLxxx-xxx	A5W00000177 ¹⁾
	Product environmental declaration ²⁾	CM2E4634E ¹⁾	
Dimensions	Actuator W x H x D (see "Dimensions")	70.3 x 152 x 59 mm	
	Push rod (profile)	10 x 4 mm	
Weight	Without packaging:	0.48 kg	

¹⁾ The documents can be downloaded from <http://siemens.com/bt/download>

²⁾ The product environmental declaration contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).

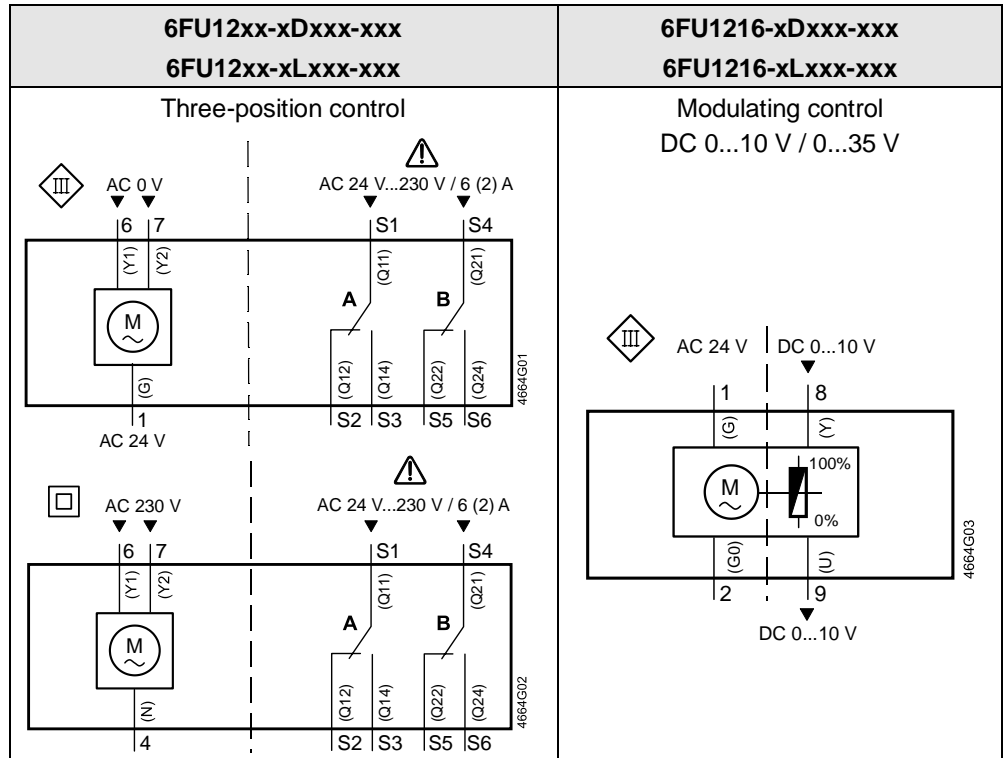
Disposal



The device is considered an electronics device for disposal in terms of European Directive 2012/19/EU and may not be disposed of as domestic garbage.

- Dispose of the device through channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.

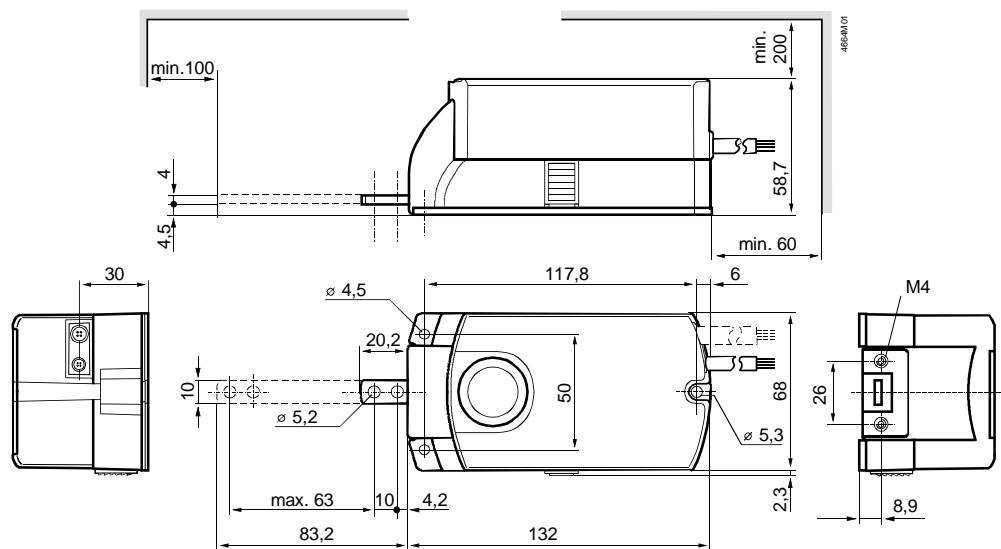
Internal diagrams



Cable labeling

Pin	Cable				Meaning
	Code	Number	Color	Abbreviation	
Actuators AC 24 V	G	1	red	RD	System potential AC 24 V
	G0	2	black	BK	System neutral
	Y1	6	purple	VT	Pos. signal AC 0 V, outward travel
	Y2	7	orange	OG	Pos. signal AC 0 V, inward travel
	Y	8	grey	GY	Pos. signal DC 0...10 V, 0...35 V
	U	9	pink	PK	Position indication DC 0...10 V
Actuators AC 230 V	N	4	blue	BU	Neutral conductor
	Y1	6	black	BK	Pos. signal AC 230 V, outward travel
	Y2	7	white	WH	Pos. signal AC 230 V, inward travel
Auxiliary switch	Q11	S1	grey/red	GY RD	Switch A Input
	Q12	S2	grey/blue	GY BU	Switch A Normally closed contact
	Q14	S3	grey/pink	GY PK	Switch A Normally open contact
	Q21	S4	black/red	BK RD	Switch B Input
	Q22	S5	black/blue	BK BU	Switch B Normally closed contact
	Q24	S6	black/pink	BK PK	Switch B Normally open contact

Dimensions



Dimensions in mm

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