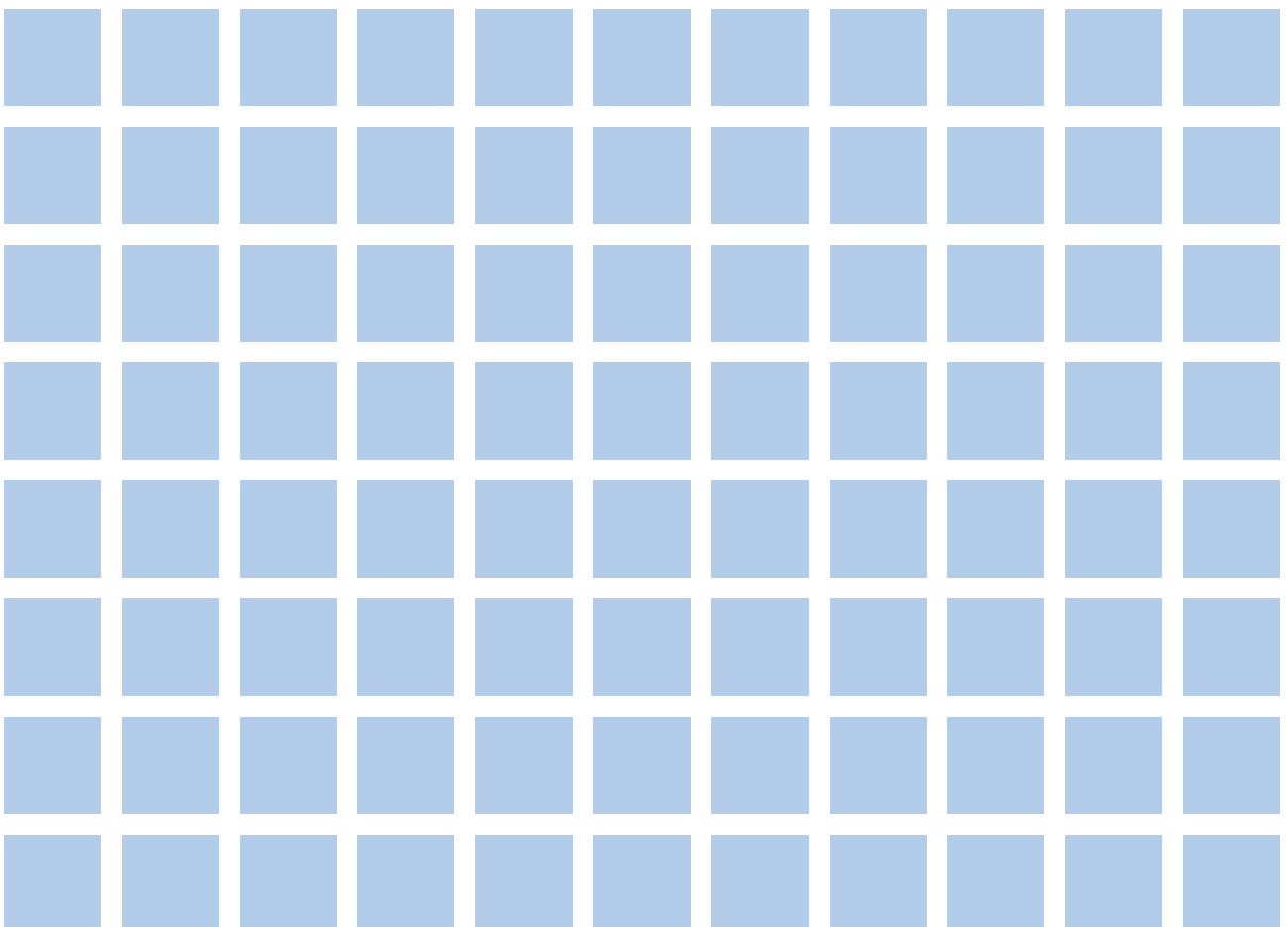


# 4

## Folding arm drives



OVERVIEW OF FOLDING ARM DRIVES																	
Type	Form	Model		Stroke	Torque		Running time		Cut-off current	Use			Location		Functions		
		Type of cut-off	Rated voltage	Range	Opening torque	Closing torque	OPEN	CLOSE	Max.	Natural ventilation	SHEV	NSHEV	Facade	Roof	Run monitoring	Synchronised run	Sequence control
			[VDC]	[mm]	[N]	[N]	[mm/s]	[mm/s]	[A]								
FTA	FTA R	S12	24	0 – 93	215	70	45,0	45,0	1,4	●	●	●	●		●	●	●
	FTA DF					215				●	●	●	●		●	●	●
	FTA GF					215				●	●	●	●	■	●	●	●

### LEGEND

● suitable    ■ not recommended

S12 internal intelligent cut-off switch for synchronised run and programmable functions



FTA600 R

**FTA600 R FOLDING ARM DRIVES**

- Model 24V DC, S12
- Pulling/Pushing force 215 Nm / 70 Nm
- Stroke length 0 – 93 Degree
- Speed 2,0 Degree/s (45 s für 90°)
- Housing (WxH) 40 x 56 x 421 mm, aluminium
- Opening mechanism Lever arm 20 x 30 x 380 mm, aluminium
- Version SOLO with roller for air inlets
- Protection rating IP32



FTA600 DF

**FTA600 DF FOLDING ARM DRIVES**

- Model 24V DC, S12
- Pulling/Pushing force 215 Nm / 70 Nm
- Stroke length 0 – 93 Degree
- Speed 2,0 Degree/s (45 s für 93°)
- Housing (WxH) 40 x 56 x 421 mm, aluminium
- Opening mechanism Lever arm 20 x 30 x 380 mm, aluminium
- Version SOLO with knuckle joint for side-hung inward opening windows
- Protection rating IP32



FTA600 GF

**FTA600 GF FOLDING ARM DRIVES**

- Model 24V DC, S12
- Pulling/Pushing force 215 Nm / 70 Nm
- Stroke length 0 – 93 Degree
- Speed 3,0 Degree/s (45 s für 93°)
- Housing (WxH) 40 x 56 x 421 mm, aluminium
- Opening mechanism Lever arm 20 x 30 x 380 mm, aluminium
- Version SOLO with slide rail for side hung outward opening windows
- Protection rating IP32

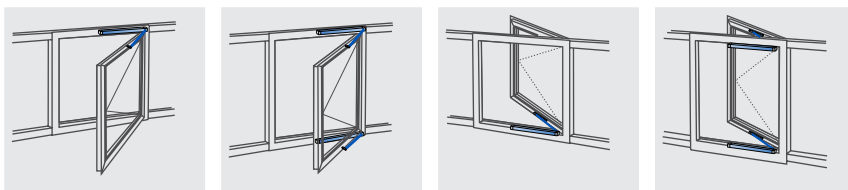


### SPECIAL FEATURES FTA600

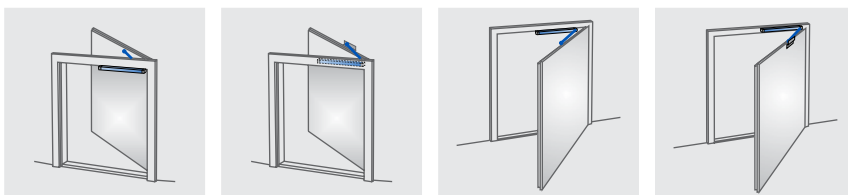
- For natural ventilation, smoke and heat exhausting systems and ferralux® NSHEV (EN12101-2)
- Type:
  - R – with roller: The folding arm opens via roller free moving doors for air inlets at 90°
  - DF – with knuckle-joint for opening/closing of side hung inward opening windows at 90°
  - GF – with slide rail for opening/closing of side hung outward opening windows at 90°
- Opening time of 45 s for 93° opening angle
- Programmable voltage free contact
- Robust corrosion-resistant design
- Easy installation due to holes in the end caps of housing
- Programmable parameters of intelligent S12 electronic cut-off switch
  - Synchronised multi-operation and sequence control without add. devices
  - Electronic soft-start, soft-close and soft-stop at end of stroke control
  - Stroke, force, speed
  - Rebate control
- Suitable for M-COM for automatic synchronised run of multi drive systems and automatic sequence control with FV locking drives (S3/S12 SW V2)

**FACADE**

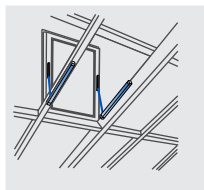
Side-hung (FTA600 DF/GF)

**INLET AIR**

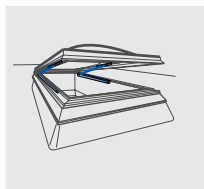
Doors (FTA600 R)

**ROOF**

Bottom-hung (FTA600 GF)



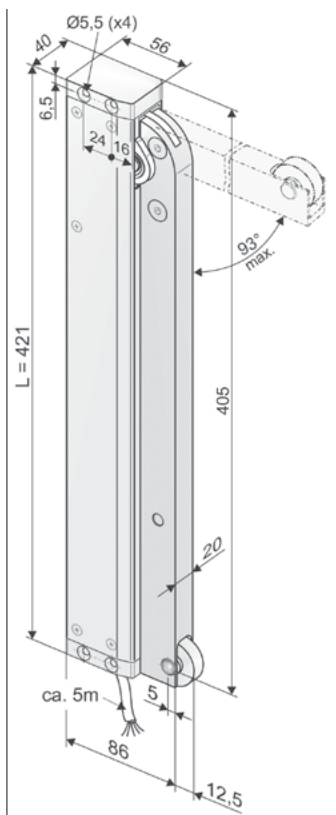
Sky-light (FTA600 GF)



- Application: natural ventilation, SHEV
- Mainly for opening of doors as air inlets
- Internal intelligent cut-off switch S12
- Programmable contact for door opener

### Options

- Programmable special functions
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with FV locking drives (S3/S12 SW V2)
- Various customised programmings on request



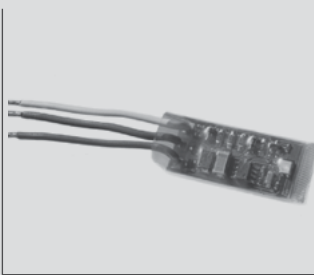
### TECHNICAL DATA

$U_N$	Rated voltage	24V DC ( $\pm 20\%$ ), max. 2 Vpp
$I_N$	Rated current	1,0 A
$I_A$	Cut-off current	1,4 A
$P_N$	Rated power	24 W
ED	Duty cycle	30 % (ON: 3 min. / OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... +75 °C
$M_A$	Torque OPEN	215 Nm (600 N)
$M_Z$	Torque CLOSE	70 Nm (200 N)
$F_H$	Pullout force	3000 N (fastening depended)
	Lever arm	aluminium (RAL9006)
	Connecting cable	non-halogen, grey 5 x 0,5 mm <sup>2</sup> , ~ 5 m
t	Running time (0° – 90°)	45 s (2,0%/s)  45 s (2,0%/s)
s	Stroke	0 – 93 DEG ( $\pm 5\%$ )
L	Length	421 mm
	Potential free contact	max. 24VDC / 0,5A programmable

ORDER DATA						
s [DEG]	L [mm]	Version	Finish	PU/pcs.	Part.-No.	
0° – 93°	421	FTA600 R S12 24V	E6/C-0	1	524151	
Accessories				PU/pcs.	Part.-No.	
K88 Casement bracket FTA600 R				1	524156	

OPTIONS			
Special model	PU/pcs.	Part.-No.	
<b>Drive housing painted/powder coated in other RAL colours</b>			
Specify at order stage:	1 – 4	516004	
	5 – 9	516004	
	10 – 49	516004	
	50 – 99	516004	
	up 100	516004	
<b>Extra length connecting cable:</b>			
10 m – non-halogen, grey – 5 x 0,5 mm <sup>2</sup>		501056	
<b>Microprocessor programming S12</b>			
Electrical stroke reduction	1	524190	
Special functions		524180	
Optional accessories	PU/pcs.	Part.-No.	
M-COM Comm. module for synchronised multi-drive systems	1	524177	

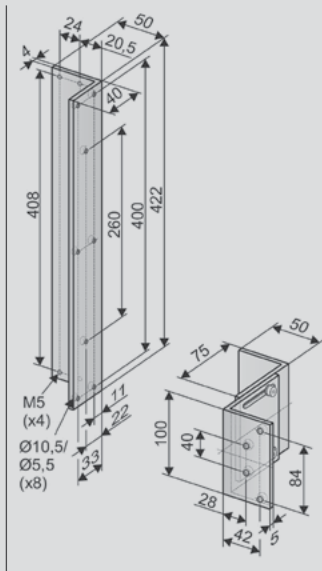
**OPTIONAL ACCESSORIES**

Main control unit			
<p><b>M-COM</b></p> 	<p><b>Application</b>  <b>Communication module</b> for automatic configuration and surveillance of max. 6 opening or locking drives version S12/S3 (software version SW-V2) in synchronised multi-drive systems</p> <p><b>Rated voltage:</b>                  24 V DC +/- 20%, (max. 2 V<sub>ss</sub>)</p> <p><b>Current consumption:</b> &lt;12 mA</p> <p><b>Drive type:</b> S12</p>	<p><b>Part.-No. 524177</b></p> <p><b>Protection rating</b>                  IP30 rubber envelope</p> <p><b>Ambient temperature range</b>                  0 °C ... + 70 °C</p> <p><b>Dimensions</b>                  45 x 17 x 6 mm</p> <p><b>Connecting wires</b>                  3 wires 0,5 mm<sup>2</sup> x 50 mm</p> <p><b>Feature/Equipment</b>                  Printed circuit board with components and connection wires to be installed in connection box to be supplied on site</p>	

### OPTIONAL ACCESSORIES

#### Casement bracket

K88



#### Application

**Surface mounting** on the **side closing edge** of door frame profiles of inward opening doors as air inlets.

Angle bracket **422 mm** for mounting of FTA600-R on the door frame profile.

Two angle brackets 100 mm for mounting on the door as sliding guidance of the carrier role, adjustable for compensation of the door overlap

**Part.-No. 524156**

**Material/Finish**  
aluminium

**Feature/Equipment**

1x angle 50x40x422

(t = 4) mm

2x angles 50x75x100

(t = 5) mm

fixing screws and nuts

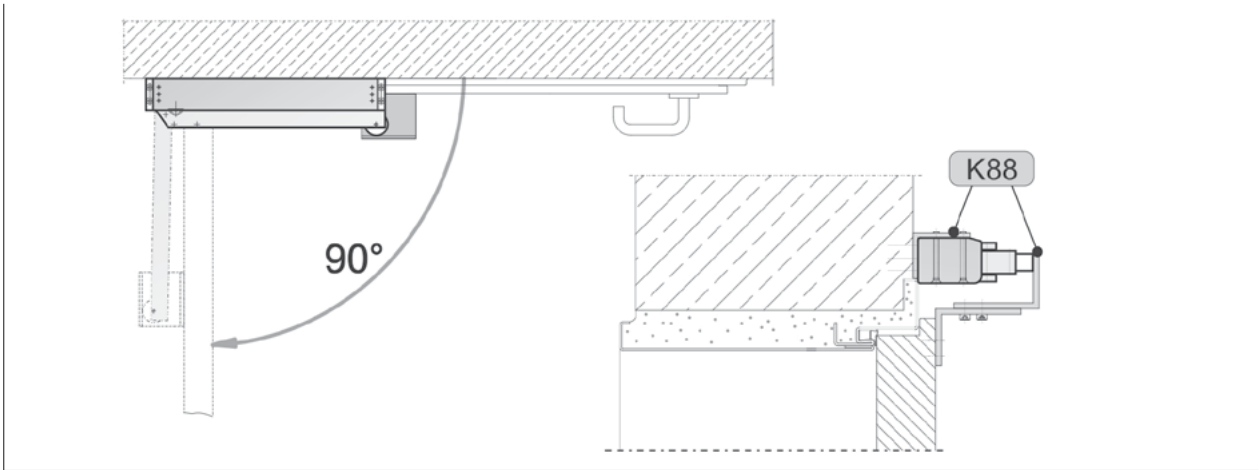
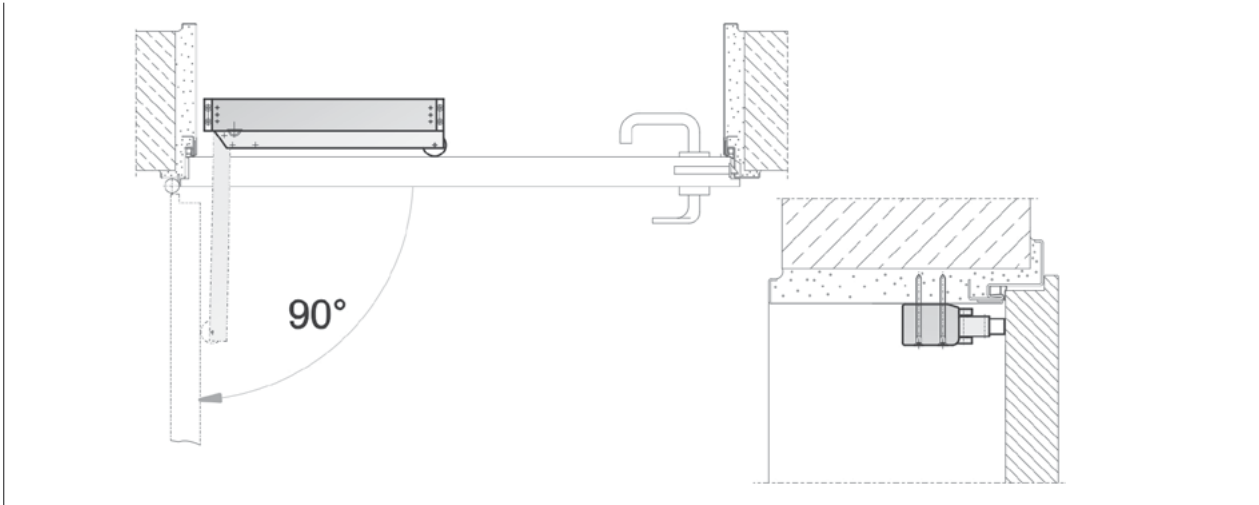
**Load**

max. 600 N

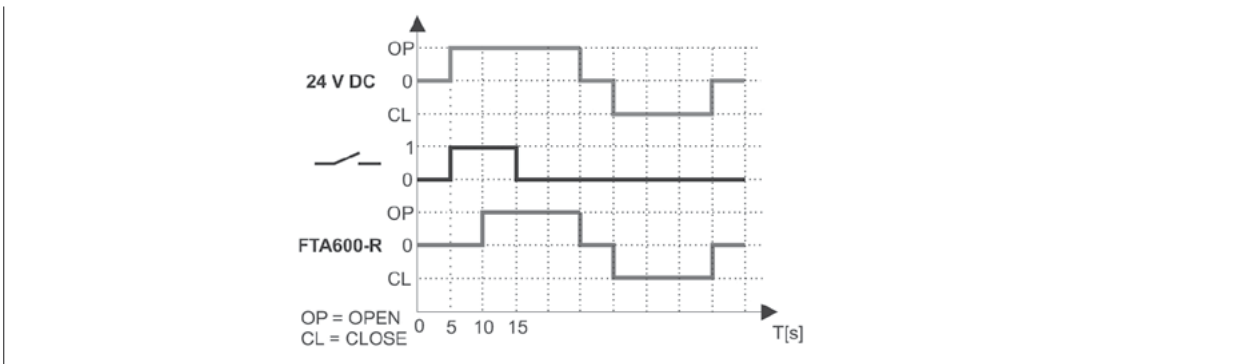
Special model	PU/pcs.	Part.-No.
<b>Frame brackets painted / powder coated in other RAL colours</b>		
Specify at order stage:	1 – 4	<b>516025</b>
	5 – 9	<b>516025</b>
	10 – 49	<b>516025</b>
	50 – 99	<b>516025</b>
	up 100	<b>516025</b>



Typical applications



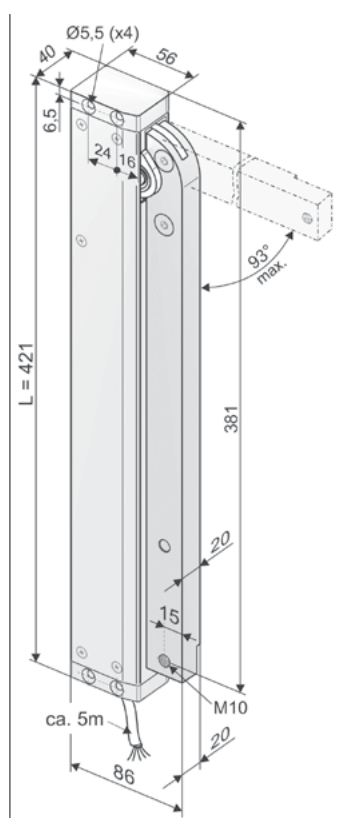
Contact diagramm



- Application: natural ventilation, SHEV
- Mainly for opening and closing of side-hung inward opening windows
- Internal intelligent cut-off switch S12
- Programmable contact for door opener

### Options

- Programmable special functions
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with FV locking drives (S3/S12 SW V2)
- Various customised programmings on request




### TECHNICAL DATA

$U_N$	Rated voltage	24V DC ( $\pm 20\%$ ), max. 2 Vpp
$I_N$	Rated current	0,8 A
$I_A$	Cut-off current	1,4 A
$P_N$	Rated power	20 W
ED	Duty cycle	30 % (ON: 3 min. / OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... +75 °C
$M_A$	Torque OPEN	215 Nm (600 N)
$M_Z$	Torque CLOSE	215 Nm (600 N)
$F_H$	Pullout force	3000 N (fastening depended)
	Lever arm	aluminium (RAL9006)
	Connecting cable	non-halogen, grey 5 x 0,5 mm <sup>2</sup> , ~ 5 m
t	Running time (0° – 90°)	45 s (2,0°/s)  45 s (2,0°/s)
s	Stroke	0 – 93 DEG ( $\pm 5\%$ )
L	Length	421 mm
	Potential free contact	max. 24VDC / 0,5A programmable

ORDER DATA						
s [DEG]	L [mm]	Version	Finish	PU/pcs.	Part.-No.	
0° – 93°	421	FTA600 DF S12 24V	E6/C-0	1	524160	
Accessories				PU/pcs.	Part.-No.	
K103 Casement bracket FTA600 DF				1	524172	

OPTIONS						
Special model	PU/pcs.	Part.-No.				
<b>Drive housing painted/powder coated in other RAL colours</b>						
Specify at order stage:	1 – 4	516004				
	5 – 9	516004				
	10 – 49	516004				
	50 – 99	516004				
	up 100	516004				
<b>Extra length connecting cable:</b>						
10 m – non-halogen, grey – 5 x 0,5 mm <sup>2</sup>		501056				
<b>Microprocessor programming S12</b>						
Electrical stroke reduction	1	524190				
Special functions		524180				
Optional accessories				PU/pcs.	Part.-No.	
M-COM Comm. module for synchronised multi-drive systems				1	524177	

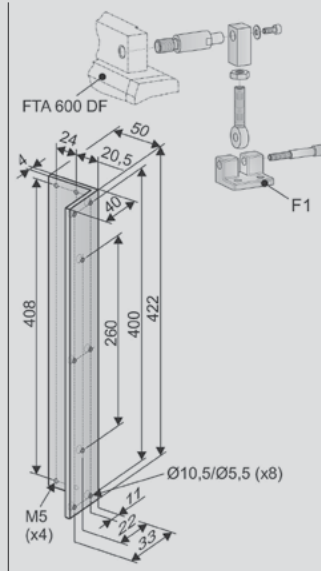
**OPTIONAL ACCESSORIES**

Main control unit						
<b>M-COM</b> 	<b>Application</b> Communication module for automatic configuration and surveillance of max. 6 opening or locking drives version S12/S3 (software version SW-V2) in synchronised multi-drive systems  <b>Rated voltage:</b> 24 V DC +/- 20%, (max. 2 V <sub>ss</sub> ) <b>Current consumption:</b> <12 mA <b>Drive type:</b> S12		<b>Part.-No. 524177</b>  <b>Protection rating</b> IP30 rubber envelope <b>Ambient temperature range</b> 0 °C ... + 70 °C <b>Dimensions</b> 45 x 17 x 6 mm <b>Connecting wires</b> 3 wires 0,5 mm <sup>2</sup> x 50 mm <b>Feature/Equipment</b> Printed circuit board with components and connection wires to be installed in connection box to be supplied on site			

### ACCESSORIES

#### Casement bracket

K103



#### Application

**Surface mounting** on the **side closing edge** of window frame profiles of **inward opening side-hung** windows. Angle bracket **422 mm** for mounting of FTA600-DF on the window frame profile. F1 for mounting on the casement profile and for the fixing with the knuckle joint, adjustable for compensation of the door overlap

**Part.-No. 524172**

**Material/Finish**  
aluminium

**Feature/Equipment**

1x angle 50x40x422

(t = 4) mm

1x casement bracket F1

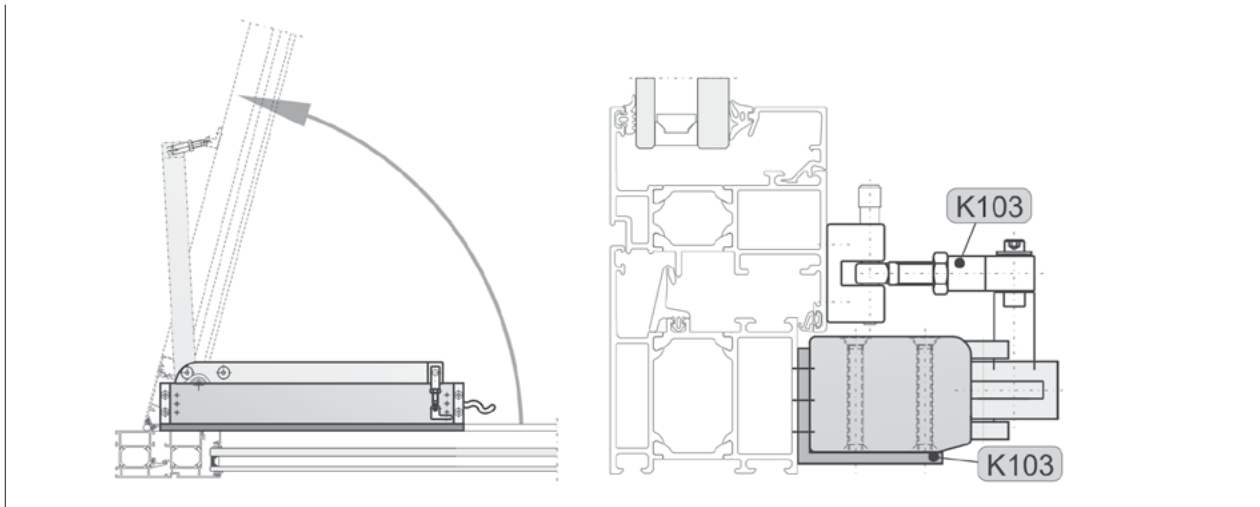
1x fixing accessories

**Load**

max. 600 N

Special model	PU/pcs.	Part.-No.			
<b>Casement brackets painted / powder coated in other RAL colours</b>					
Specify at order stage:	1 – 4	<b>516026</b>			
	5 – 9	<b>516026</b>			
	10 – 49	<b>516026</b>			
	50 – 99	<b>516026</b>			
	up 100	<b>516026</b>			
<b>Frame brackets painted / powder coated in other RAL colours</b>					
Specify at order stage:	1 – 4	<b>516025</b>			
	5 – 9	<b>516025</b>			
	10 – 49	<b>516025</b>			
	50 – 99	<b>516025</b>			
	up 100	<b>516025</b>			

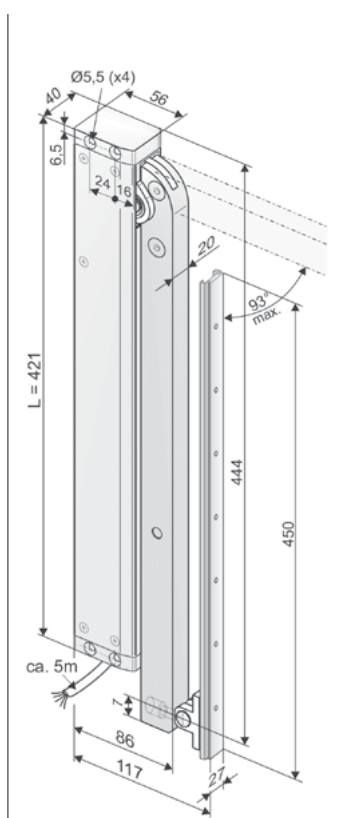
Typical applications



- Application: natural ventilation, SHEV
- Mainly for opening and closing of side-hung outward opening windows
- Internal intelligent cut-off switch S12
- Programmable contact for door opener

### Options

- Programmable special functions
- M-COM for automatic synchronised run of multi drive systems and automatic sequence control with FV locking drives (S3/S12 SW V2)
- Various customised programmings on request



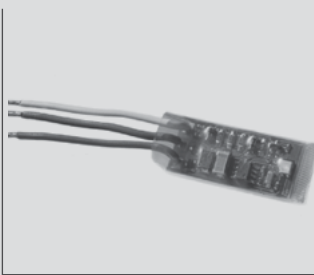
### TECHNICAL DATA

$U_N$	Rated voltage	24V DC ( $\pm 20\%$ ), max. 2 Vpp
$I_N$	Rated current	0,8 A
$I_A$	Cut-off current	1,4 A
$P_N$	Rated power	20 W
ED	Duty cycle	30 % (ON: 3 min. / OFF: 7 min.)
	Protection rating	IP 32
	Ambient temperature range	-5 °C ... +75 °C
$M_A$	Torque OPEN	215 Nm (600 N)
$M_Z$	Torque CLOSE	215 Nm (600 N)
$F_H$	Pullout force	3000 N (fastening depended)
	Lever arm	aluminium (RAL9006)
	Connecting cable	non-halogen, grey 5 x 0,5 mm <sup>2</sup> , ~ 5 m
t	Running time (0° – 90°)	45 s (2,0°/s)  45 s (2,0°/s)
s	Stroke	0 – 93 DEG ( $\pm 5\%$ )
L	Length	455 mm
	Potential free contact	max. 24VDC / 0,5A programmable

ORDER DATA						
s [DEG]	L [mm]	Version	Finish	PU/pcs.	Part.-No.	
0° – 93°	455	FTA600 GF S12 24V	E6/C-0	1	524163	
Accessories				PU/pcs.	Part.-No.	
K104 Casement bracket FTA600 GF				1	524173	

OPTIONS			
Special model	PU/pcs.	Part.-No.	
<b>Drive housing painted/powder coated in other RAL colours</b>			
Specify at order stage:	1 – 4	516004	
	5 – 9	516004	
	10 – 49	516004	
	50 – 99	516004	
	up 100	516004	
<b>Extra length connecting cable:</b>			
10 m – non-halogen, grey – 5 x 0,5 mm <sup>2</sup>		501056	
<b>Microprocessor programming S12</b>			
Electrical stroke reduction	1	524190	
Special functions		524180	
Optional accessories	PU/pcs.	Part.-No.	
M-COM Comm. module for synchronised multi-drive systems	1	524177	

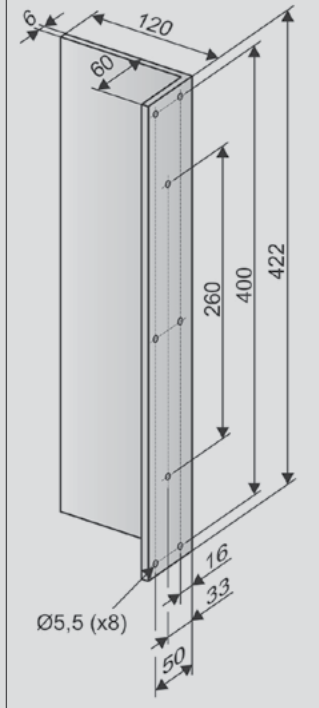
**OPTIONAL ACCESSORIES**

Main control unit			
<p><b>M-COM</b></p> 	<p><b>Application</b>  <b>Communication module</b> for automatic configuration and surveillance of max. 6 opening or locking drives version S12/S3 (software version SW-V2) in synchronised multi-drive systems</p> <p><b>Rated voltage:</b>                  24 V DC +/- 20%, (max. 2 V<sub>ss</sub>)</p> <p><b>Current consumption:</b> &lt;12 mA</p> <p><b>Drive type:</b> S12</p>	<p><b>Part.-No. 524177</b></p> <p><b>Protection rating</b>                  IP30 rubber envelope</p> <p><b>Ambient temperature range</b>                  0 °C ... + 70 °C</p> <p><b>Dimensions</b>                  45 x 17 x 6 mm</p> <p><b>Connecting wires</b>                  3 wires 0,5 mm<sup>2</sup> x 50 mm</p> <p><b>Feature/Equipment</b>                  Printed circuit board with components and connection wires to be installed in connection box to be supplied on site</p>	

### ACCESSORIES

#### Casement bracket

K104



#### Application

Surface mounting on the side closing edge of window frame profiles of inward opening side-hung windows.

Angle bracket 422 mm for mounting of FTA600-GF on the window frame profile.

The slide rail of has to be mounted on the casement profile

Part.-No. 524173

Material/Finish  
aluminium

Feature/Equipment

1x angle 50x40x422

(t = 4) mm

4x countersunk screws,

M5x45 mm

Load

max. 600 N

Special model	PU/pcs.	Part.-No.			
<b>Frame brackets painted / powder coated in other RAL colours</b>					
Specify at order stage:	1 – 4	516025			
	5 – 9	516025			
	10 – 49	516025			
	50 – 99	516025			
	up 100	516025			

**ATTENTION:** Slide rail may not be painted!



Typical applications

