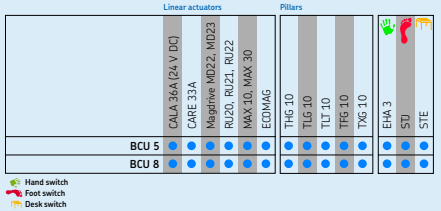
Control unit
BCU

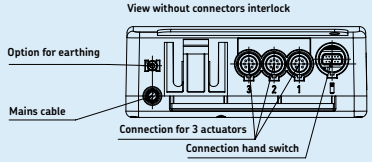
Benefits

- Compact 3-channel actuator control unit
- Single fault safety
- Overload and over-temperature protection
- Approved for medical applications
- Easy to clean
- Low standby current

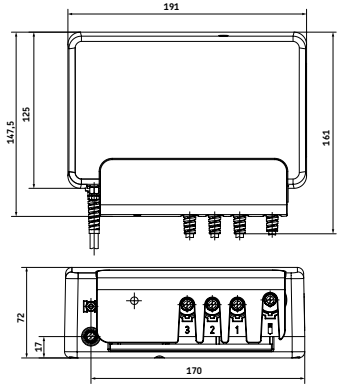
Suitable actuators, pillars and accessories



Connecting diagram



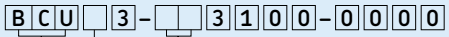
Dimensional drawing



Technical data

	Unit	BCU 5	BCU 8
Motor ports (DIN8)	#	3	3
Operating device ports (HD15)	#	1	1
Battery ports	#	0	0
Limit switch ports	#	0	0
Single fault safety	yes/no	yes	yes
Encoder processing	yes/no	no	no
Input voltage	V AC	120	230
Frequency	Hz	60	50
Input current (max)	A	2,5	1,3
Standby power	W	1,2	1,5
Output voltage	V DC	24	24
Output current (max)	A	7	7
Duty cycle: intermittent	min.	1 min./9 min.	1 min./9 min.
Duty cycle: short time	min.	2	2
Ambient temperature	°C	0 to +40	0 to +40
Humidity	%	5 to 85	5 to 85
Type of protection	IP	x4	x4
Approvals	EN/UL	EN 60601-1 UL 60601-1	EN 60601-1 UL 60601-1
Weight	kg	2,3	2,3

Ordering keys



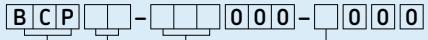
Type

BCU control unit

Voltage:
120 V AC, 60 Hz, class I 5
230 V AC, 50 Hz, class II 8

Mains power supply cable:
Class II, straight 3,5 m, 2-pole plug, EU (for voltage type 8) 2J
Class II, straight 3,5 m, 2-pole plug, UK (for voltage type 8) 2H
Class I, straight 3,5 m, 3-pole plug, UL (for voltage type 5) 2L

EACH BCU NEEDS A BCP



Type

BCU parameterization

Functionality:
All channels individually 11
Channel 2+1 21
All channels simultaneously 30
Trendelenburg T1

Motors:

A	CALA 36A (24V DC), ECO2, ECO3, ECO4, ECO5	3,7 A	Actuator 1	–
C	CARE 33A, TLT10*, TXG10 (EXG)	4,7 A	Actuator 2	–
E	TFG, ECO6, ECO8, ECO9	5,7 A	Actuator 3	–
M	MAX10, MAX30, THG10, TLG10	6,7 A		
R	RU20, RU21, RU22	8,5 A		
D	MD22, MD23	8,5 A		

Soft start/stop:
Hard, start 0 ms, stop 0 ms 0
Medium, start 400 ms, stop 200 ms 3

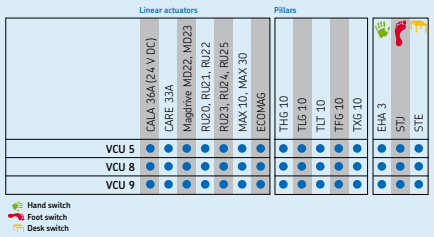
***** TLT is a 2-motor actuator. If simultaneous run is needed, BCP21-CC... is recommended

Control unit
VCU

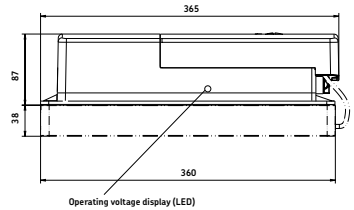
Benefits

- Compact 5-channel actuator control unit
- Single fault safety
- Overload and over-temperature protection
- Approved for medical applications
- Easy to clean
- Low standby current

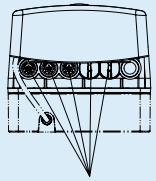
Suitable actuators, pillars and accessories



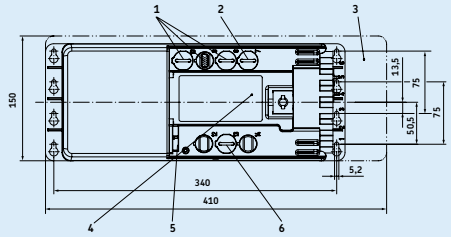
Dimensional drawing



Connecting diagram



Up to 5 connections with DIN8 plug



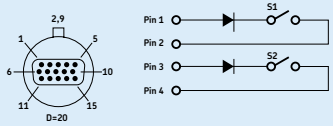
1. Two connections for HD15 operating devices
2. HD15 limit switch connection
3. Additional space for mounting
4. Data plate software
5. Mains connection
6. D-Sub 9 battery connection (optional)

Technical data

	Unit	VCU 5	VCU 8	VCU 9
Motor ports (DIN8)	#	3 or 5	3 or 5	3 or 5
Operating device ports (HD15)	#	2	2	2
Battery ports (DSub9)	#	1	1	1
Limit switch ports (HD15)	#	2	2	2
Single fault safety	yes/no	yes	yes	yes
Encoder processing	yes/no	no	no	no
Input voltage	V AC	120	230	230
Frequency	Hz	60	50	50
Input current (max)	A	2,5 resp. 6,5	1,3 resp. 3,3	1,3 resp. 3,3
Standby power	W	2,6 resp. 3,9	2,6 resp. 3,9	2,6 resp. 3,9
Output voltage	V DC	24	24	24
Output current (max)	A	7 resp. 18	7 resp. 18	7 resp. 18
Duty cycle: intermittent	min.	1 min./9 min.	1 min./9 min.	1 min./9 min.
Duty cycle: short time	min.	2	2	2
Ambient temperature	°C	+5 to +40	+5 to +40	+5 to +40
Humidity	%	5 to 85	5 to 85	5 to 85
Type of protection	IP	x4	x4	x4
Approvals	EN/UL	EN 60601-1 UL 60601-1	EN 60601-1 UL 60601-1	EN 60601-1 UL 60601-1
Weight without battery	kg	2,4 resp. 3,8	2,4 resp. 3,8	2,4 resp. 3,8
Weight with battery	kg	5,4 resp. 8,8	5,4 resp. 8,8	5,4 resp. 8,8

Pinning of HD15 limit switch connection

Function	Pin	Wire color (ZKA-160627-2500)	Connecting diagram
24 V DC (common)	1,3,5,7,9	white/yellow, white/green, grey–pink, black, blue	
Switch 1	2	brown–green	
Switch 2	4	red–blue	
NC	6,8,10,11,12,14	violet, red, pink, grey, yellow, brown	
20–40 V DC, max. 50 mA	13	green	
GND	15	white	



Accessories

	Plug	Designation	Order N°
Mains cable, 2 pole	Euro	ZKA–160608–3500	M/0105726
Mains cable, 3 pole	Schuko	ZKA–160637–3500	M/0118821
Mains cable, 3 pole	SEV	ZKA–160638–3500	M/0118822
Mains cable, 3 pole	UL	ZKA–160639–3500	M/0105588
Mains cable, 3 pole	UK	ZKA–160609–3500	M/0105631
Mains cable, 3 pole	UL, hospital grade	ZKA–160640–3500	M/0118823
Battery pack 2,7 Ah		ZBA–160208–0400	M/0118806
Rack for 4,5 Ah battery		ZBA–160207–1000	M/0121266
Detachable battery 4,5 Ah		ZBA–160209	M/0119846

Ordering keys

VCU□□-003□□0-000

Type

VCU control unit

Voltage:
120 V AC, 60 Hz, class I 5
230 V AC, 50 Hz, class II 8
230 V AC, 50 Hz, class I 9

Number of channels:
3 channels 3
5 channels 5

Option 1:
No option (only VCU×3) 1
Prepared for mounting of battery 2

Transformer:
7 A tranformer 1
18 A transformer (for 5-channel version only) 3

EACH VCU NEEDS A VCP

VCP□□-□□□□□□-□000

Type

VCU parameterization

Functionality:
All channels individually 11
2 channels simultaneously + 1 or 3 individually 21
2 + 2 channels simultaneously + 1 individually 22
All channels simultaneously, only 3-channel version 30
4 channels simultaneously + 1 individually, only 5-channel version 41
All channels simultaneously, only 5-channel version 50
Trendelenburg (2 channels) + 1 or 3 individually T1

Actuators:

A	CALA 36A (24V DC), ECO2, ECO3, ECO4, ECO5	3,7 A	Actuator 1	-
C	CARE 33A, TLT10*, TXG10 (EXG)	4,7 A	Actuator 2	-
E	TFG, ECO6, ECO7, ECO8, ECO9	5,7 A	Actuator 3	-
M	MAX10, MAX30, TLG10, THG10	6,7 A	Actuator 4	-*
R	RU20, RU21, RU22	8,5 A	Actuator 5	-*
D	MD22, MD23	8,5 A		
U	RU23, RU24, RU25	11,7 A		

* for VCU×3: insert zero

Softstart:
Hard= start 0 ms, stop 0 ms 0
Medium= start 400 ms, stop 200 ms 3

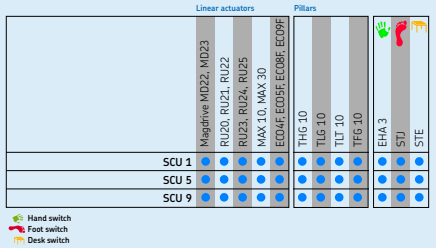
***** TLT is a 2-motor actuator. If simultaneous run is needed, VCP21-CC... is recommended

Control unit SCU

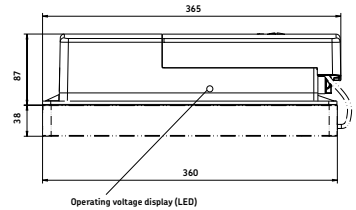
Benefits

- Compact 6-channel actuator control unit
- Single fault safety
- Overload and over-temperature protection
- Approved for medical applications
- Easy to clean
- Low standby current
- Remote control RS232

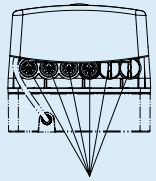
Suitable actuators, pillars and accessories



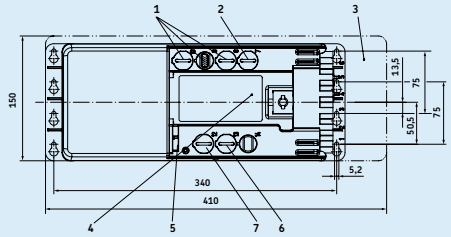
Dimensional drawing



Connecting diagram



Up to 6 connections with DIN8 plug



1. Three connections for HD15 operating devices
2. HD15 limit switch connection
3. Additional space for mounting
4. Data plate software
5. Mains connection
6 Communication interface (optional)
7. D-Sub 9 battery connection (optional)

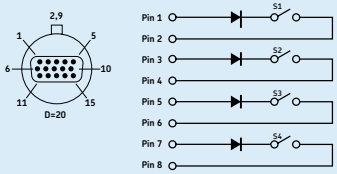
Technical data

	Unit	SCU 1	SCU 5	SCU 9
Motor ports (DIN8)	#	6	3 or 6	3 or 6
Operating device ports (HD15)	#	3	3	3
Battery ports (DSub9)	#	1	1	1
Limit switch ports (HD15)	#	4	4	4
Single fault safety	yes/no	yes	yes	yes
Encoder processing	yes/no	yes	yes	yes
Input voltage	V	24 DC	120 AC	230 AC
Frequency	Hz	N/A	60	50
Input current (max)	A	30	6,5	3,3
Standby power	W	0,8	4,3	4,3
Output voltage	V DC	24	24	24
Output current (max)	A	30	18	18
Duty cycle: intermittent	min.	1 min./9 min.	1 min./9 min.	1 min./9 min.
Duty cycle: short time	min.	2	2	2
Ambient temperature	°C	+5 to +40	+5 to +40	+5 to +40
Humidity	%	5 to 85	5 to 85	5 to 85
Type of protection	IP	x4	x4	x4
Approvals	EN/UL	EN 60601–1 UL 60601–1	EN 60601–1 UL 60601–1	EN 60601–1 UL 60601–1
Weight without battery	kg	1,2	3,8	3,8
Weight with battery	kg	4,2	6,8	6,8

Pinning of HD15 limit switch connection

Function	Pin	Wire color (ZKA-160627-2500)
Switch 1	2	brown/green
Switch 2	4	red/blue
Switch 3	6	violet
Switch 4	8	red
24 V DC (com)	1, 3, 5, 7	white/yellow, white/green, grey/pink, black
Optional external power supply for binary outputs	9	blue
Binary output 1 (22-40 V DC/1 A)	10	pink
Binary output 2 (22-40 V DC/1 A)	11	grey
GND for binary outputs	12	yellow
20-24 V DC, max. 50 mA	13	green
5 V DC pulsed	14	brown
GND	15	white

Connecting diagram



Accessories

	Plug	Designation	Order N°
Mains cable, 3 pole	Schuko	ZKA–160637–3500	M/0118821
Mains cable, 3 pole	SEV	ZKA–160638–3500	M/0118822
Mains cable, 3 pole	UL	ZKA–160639–3500	M/0105588
Mains cable, 3 pole	UK	ZKA–160609–3500	M/0105631
Mains cable, 3 pole	UL, hospital grade	ZKA–160640–3500	M/0118823
Battery pack 2,7 Ah		ZBA–160208–0400	M/0118806
Rack for 4,5 Ah battery		ZBA–160207–1000	M/0121266
Detachable battery 4,5 Ah		ZBA–160209	M/0119846

Ordering keys

S C U _ _ – 0 0 3 _ _ _ – 0 0 0 0

Type

SCU control unit

Voltage:
24 V DC (only for 6-channel version) 1
120 V AC, 60 Hz, class I 5
230 V AC, 50 Hz, class I 9

Number of channels:
3 channels 3
6 channels 6

Battery:
None (only for SCU16) 1
Prepared for mounting of battery 2

Transformer:
None (only for SCU16) 0
Standard (AC version) 3

Interface:
Without RS232 0
With RS232 (only for 6-channel version) 1

EACH SCU NEEDS A SCP

S C P _ _ – _ _ _ _ _ _ – _ 0 0 0

Type

SCU parameterization

Functionality:
All channels individually 11
Channel 2+1(+1+1+1) 21
Six (6) channel version 2+2+1+1 22
Three (3) channel version, all channels synchronously 30
Six (6) channel version 3+1+1+1 31
Six (6) channel version 4+1+1 41
Six (6) channel version, all channels synchronously 60
Trendelenburg T+1 (+1+1) T1

Actuators:

A	EC04F, EC05F	3,7 A	Actuator 1	–
C	TLT 10*	4,7 A	Actuator 2	–
E	TFG10, EC08F, EC09F	5,7 A	Actuator 3	–
M	MAX10, MAX30, TLG10, THG10	6,7 A	Actuator 4	–*
R	RU20, RU21, RU22	8,5 A	Actuator 5	–*
D	MD22, MD23	8,5 A	Actuator 6	–*
U	RU23, RU24, RU25	11,7 A		

* for SCUx3: insert zero

Softstart:
Hard, start 0 pulses, stop 0 pulses 0
Medium, start 12 pulses, stop 6 pulses 3

The SCU solution offers many more possibilities than those given in the type keys.
Please feel free to ask for more functions like "virtual limit switches", "external limit switches" and so on.

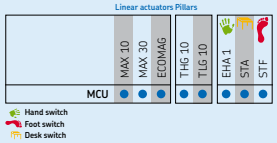
***** TLT is a 2-motor actuator. If simultaneous run is needed, SCP21-CC... is recommended

Control unit MCU

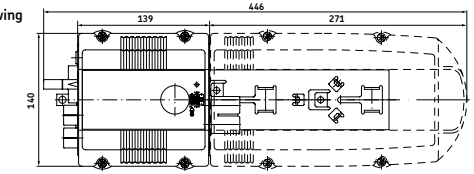
Benefits

- Suitable for mobile applications
- LED indication for battery charge level
- Audible signal for low charge condition

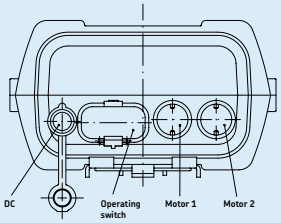
Suitable actuators, pillars and accessories



Dimensional drawing



Connecting diagram



Technical data

	Unit	MCU
Motor ports (Jack)	#	2
Operating device ports (DSub9)	#	1
Battery ports	#	1
Limit switch ports	#	0
Single fault safety	yes/no	no
Encoder processing	yes/no	no
Input voltage	V DC	28
Frequency	Hz	N/A
Input current (max)	A	0,5
Standby power	W	N/A
Output voltage	V DC	24
Output current (max)	A	9,5
Duty cycle: intermittent	min.	1 min./9 min.
Duty cycle: short time	min.	N/A
Ambient temperature	°C	+10 to +40
Humidity	%	85
Type of protection	IP	x4
Approvals	EN/UL	EN 60601-1/EN 60601-1-2/ UL 2601/EN ISO 10535
Weight	kg	4,9

Ordering key

M C U 1 _ – 0 0 3 _ _ _ – 0 0 0 0

Type

Number of channels:

1 channel	1
2 channels	2

Option:

Current cut-off 6 A	000
Current cut-off 9 A	EXP
Current cut-off 6 A, electric emergency lowering of channel 1	EYE
Current cut-off 9 A, electric emergency lowering of channel 1	2AT
Individual current cut-off 6 A (only for 2-channel version)	EYR

Accessories

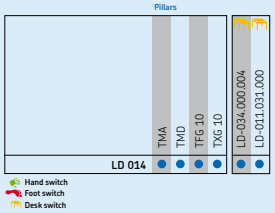
	Plug	Designation	Order N°
Battery unit 4,5 Ah		ZBA-142211	M/0126153
Mains adapter 230 V AC	Euro	ZDV-142331-2500	M/0100009
Mains adapter 120 V AC	UL	ZDV-142332-2500	M/0100060
Wall charging station		ZLA-142221	M/0126159
Tool for connectors (Jack/D-Sub/Mains)		ZWS-140375	M/0125322

Control unit
LD–014

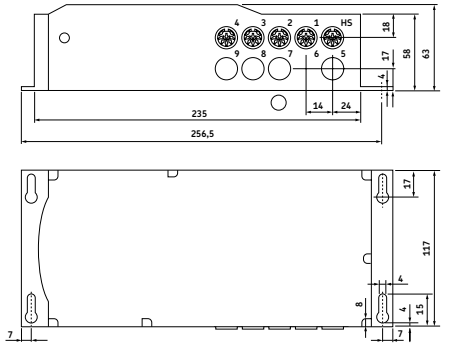
Benefits

- Synchronized movement of 4 actuators possible
- Drive comfort
- Intelligent System Protection (ISP) - anti-pinching

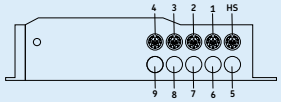
Suitable pillars and accessories



Dimensional drawing



Connecting diagram



1. Connection to actuator 1
2. Connection to actuator 2
3. Connection to actuator 3
4. Connection to actuator 4

HS. Connection to desk switch

Technical data

		Unit	LD–014
Motor ports (DIN8)		#	4
Operating device ports (DIN7)		#	1
Battery ports		#	0
Limit switch ports (FCC)		#	1
Single fault safety		yes/no	no
Encoder processing		yes/no	yes
Input voltage		V AC	120 or 230
Frequency		Hz	60 or 50
Input current (max)	120 V AC	A	6
	230 V AC	A	2,5
Standby power		W	1
Output voltage		V DC	24
Output current (max)		A	11
Duty cycle: intermittent		min.	1 min./9 min.
Duty cycle: short time		min.	N/A
Ambient temperature		°C	+5 to +45
Humidity		%	5 to 85
Type of protection		IP	20
Approvals		EN/UL	EN 60335-1
Weight		kg	2,5

Product ordering keys

	TMA	TMD	TFG	TXG
230 V AC				
4 actuators	LD–014.208.000	LD–014.208.200	LD–014.177.100	LD–014.178.000
2+2 actuators	LD–014.176.200	LD–014.176.100	LD–014.176.600	
120 V AC				
4 actuators	LD–014.208.100	LD–014.208.300	LD–014.177.200	LD–014.178.500
2+2 actuators	LD–014.176.400	LD–014.176.300	LD–014.176.700	

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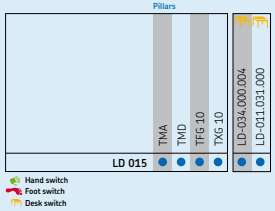
Control unit
LD–015

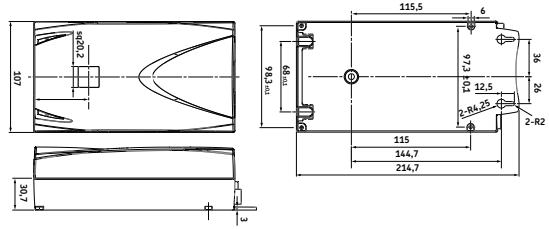
Benefits

- Synchronized movement of 3 actuators possible
- Drive comfort
- Intelligent System Protection (IPS) - anti-pinch

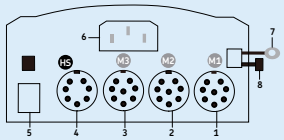
Suitable pillars and accessories



Dimensional drawing



Connecting diagram



1. Connection to actuator 1 (M1)
2. Connection to actuator 2 (M2)
3. Connection to actuator 3 (M3)
4. Connection to desk switch (HS)
5. Connection to squeeze line
6. Mains supply
7. Cable plug for grounding the desk frame (optional)
8. Connector for mains cut-off (optional)

Technical data

		Unit	LD–015	LD–015
Motor ports (DIN8)		#	3	2
Operating device ports (DIN7)		#	1	1
Battery ports		#	0	0
Limit switch ports (FCC)		#	1	1
Single fault safety		yes/no	no	no
Encoder processing		yes/no	yes	yes
Input voltage		V AC	120 or 230	120 or 230
Frequency		Hz	60 or 50	60 or 50
Input current (max)	120 V AC	A	6	6
	230 V AC	A	2,5	2,5
Standby power		W	1,1	1,1
Output voltage		V DC	24	24
Output current (max)		A	11	9
Duty cycle: intermittent		min.	1 min./9 min.	1 min./9 min.
Duty cycle: short time		min.	N/A	N/A
Ambient temperature		°C	+5 to +45	+5 to +45
Humidity		%	5 to 85	5 to 85
Type of protection		IP	20	20
Approvals		EN/UL	EN 60335-1	EN 60335-1
Weight		kg	2,2	1,9

Product ordering keys

230 V AC	**TMA**	**TMD**	**TFG**	**TXG**
1 actuator	LD–015.342.000	LD–015.343.000	LD–015.357.100	
2 actuators	LD–015.342.200	LD–015.343.200	LD–015.357.000	LD–015.255.000
3 actuators	LD–015.342.400	LD–015.343.400	LD–015.357.400	LD–015.258.000

120 V AC	**TMA**	**TMD**	**TFG**	**TXG**
1 actuator	LD–015.342.100	LD–015.343.100	LD–015.357.300	
2 actuators	LD–015.342.300	LD–015.343.300	LD–015.357.200	LD–015.255.500
3 actuators	LD–015.342.500	LD–015.343.500	LD–015.357.500	LD–015.258.500

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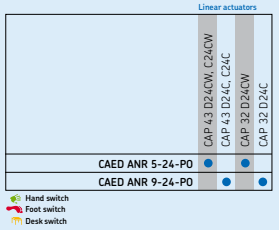
Control unit
CAED ANR

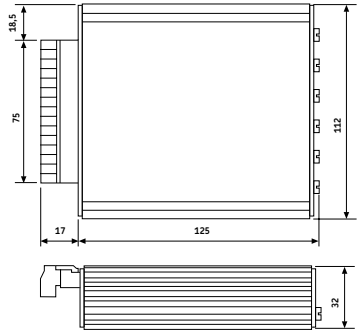
Benefits

- Compact potentiometer control unit
- Electronic overload protection
- LED indication for overload cut out
- Easy installation via front screw terminal

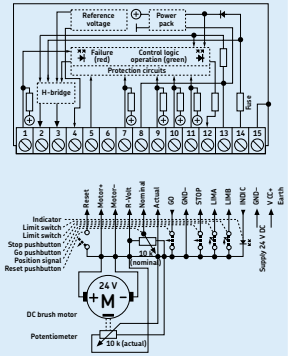
Suitable actuators



Dimensional drawing



Connecting diagram



RESET comander always NO contacts
LIMIT comander always NO contacts
LIMIT comander must be installed depend upon the motor revolution direction
Motor revolution direction depend on the polarity of nominal and actual value

Technical data

	Unit	CAED ANR 5–24R–PO	CAED ANR 9–24R–PO
Motor ports	#	1	1
Operating device ports	#	1	1
Battery ports	#	0	0
Limit switch ports	#	1	1
Single fault safety	yes/no	no	no
Analogical processing	yes/no	yes	yes
Input voltage	V DC	22 – 28	22 – 28
Frequency	Hz	N/A	N/A
Input current (max)	A	10	10
Standby power	W	N/A	N/A
Output voltage	V DC	24	24
Output current (max)	A	5	10
Duty cycle: intermittent	min. on/off	2 min./8 min.	2 min./8 min.
Duty cycle: short time	min on	N/A	N/A
Ambient temperature	°C	0 to +50	0 to +50
Humidity	%	N/A	N/A
Type of protection	IP	40	40
Approvals	EN/UL	N/A	N/A
Weight	kg	0,36	0,36

Product ordering keys

CAED ANR 5–24R–PO
CAED ANR 9–24R–PO

Control unit

CAEF

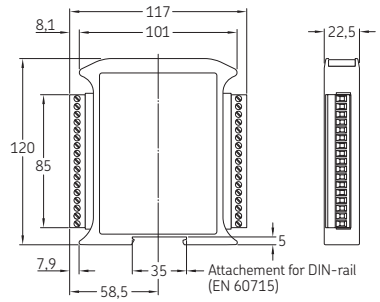
Benefits

- Integrated fieldbus communication
- Compatible with 24 V DC, SKF actuators
- Current, position and speed control
- Programmable virtual limit switches
- Status/alarm indications via LED
- Low standby current
- DIN rail compatible enclosure

Technical data

Parameter	Unit	Value
Motor ports	number	1
Built-in diagnostics	yes/no	Yes
Analogue inputs	yes/no	Yes
Supply voltage	V DC	24
Frequency	Hz	NA
Input current (max)	A	10
Standby power	W	1,5
Motor output voltage	V DC	24
Motor output current (max)	A	10
Duty cycle: intermittent	min. on/off	25%
Fieldbus communication protocol	text	CAN/KWP2000 RS-485/ MODBUS
Fieldbus connection port	number	2
Analog inputs, 0-10 V	number	2
Quadrature encoder port	number	1
Digital inputs, PLC compatible	number	3/2 (NPN/PNP)
Digital outputs, PLC compatible	number	3 (NPN)
Brake output, NPN	mA	700@25% duty cycle
Power supply for external encoder	V DC/mA	10/50
Operating ambient temperature	° C	–20 – +60
Storage ambient temperature	° C	–20 – +100
Humidity	%	NA
Type of protection	IP	20
Compliance	EN/UL	EMC 2004/108/EC
Compliance	EN/UL	RoHS 2011/65/EU
Weight	kg	0,2
Enclosure	text	22,5 mm DIN-rail box

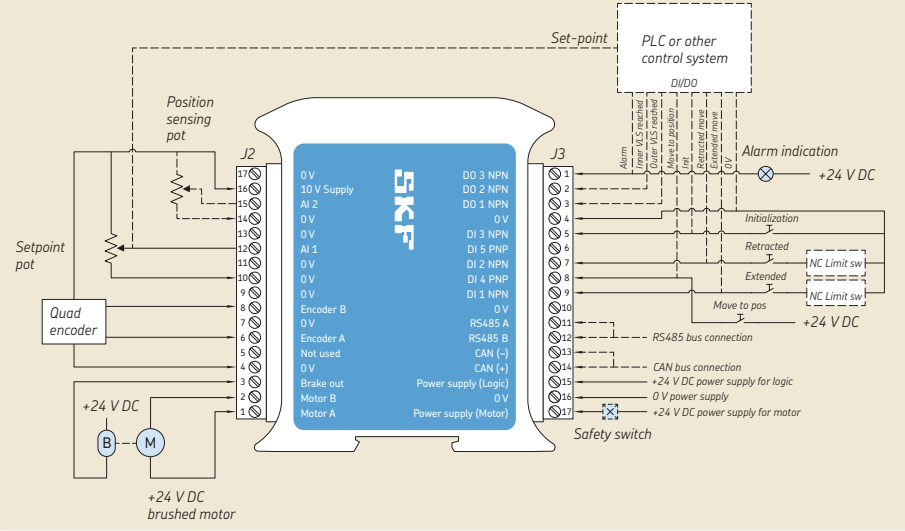
Dimensional drawing



Suitable actuators, pillars and accessories

- CAT32B (all 24 V DC motor types)
- CAT33 (all 24 V DC motor types)
- CAT33H (all 24 V DC motor types)
- CALA36A
- CAR22
- MATRIX, MAX3
- Runner
- Magdrive
- CAHB-10
- Ecomag

Connecting diagram



Ordering Key

CAEF - S - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ]

Type

Current limit in A

Actuator type	Motor type	
CAT32B, CAT33, CAT33H	C24CW, D24CW 5	5
CAT32B, CAT33, CAT33H 10	C24C, D24C, D24CB, D24CS	10
Matrix	MAX3	5
Ecomag	ECO 2/3/4/5	3
Ecomag	ECO 6/7/8/9	5
CAR22	all	5
CAHB-10	all	3
CALA 36A	all	3
Other	all	10

Feedback function

Encoder	E
No	N

Fieldbus Interface

Modbus	M
CAN	C
No	N

Brake function[1)]

Yes	Y
No	N

Analog setpoint[2)]

Position	P
Current	C
No	N

Feedback resolution in pulse/10 mm [3)]

Actuator type	Load variant	Encoder resolution [pulse/10 mm]
CAT33	CAT33X...X1	667
CAT33	CAT33X...X2	333
CAT33	CAT33X...X4	167
CAT33	CAT33HX...X1	160
CAT33	CAT33HX...X2	80
CAT33	CAT33HX...X4	40
CAT32B	CAT32BX...X1	500
CAT32B	CAT32BX...X2	250
CAT32B	CAT32BX...X4	125
Runner	RU20/23	37
Runner	RU21/24	47
Runner	RU22/25	62
Ecomag	ECO2/3/4/5	40
Ecomag	ECO6/7/8/9	80
Matrix	MAX3..C	32
Matrix	MAX3..B	64
Matrix	MAX3..A	80
Magdrive	MD2	217
CAHB-10	CAHB-10..1	133
CAHB-10	CAHB-10..2	267
CAHB-10	CAHB-10..3	533
CAHB-10	CAHB-10..4	800
CAHB-10	CAHB-10..5	1 053

Virtual limit switch inner position in mm[3)] 5-700

Virtual limit switch outer position in mm[3), 4)] 6-695

[1)] To be selected if there is an electromechanical brake connected to the CAEF Unit
[2)] To be selected if an external analogue reference in position or current is given to the unit
[3)] To be filled in if the Feedback function is Encoder, otherwise it should be omitted
[4)] Virtual limit switch outer position must be equal to or less than "nominal stroke in mm –5 mm" of the actuator connected

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Control unit CAED

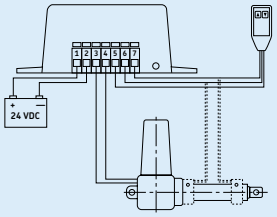
Benefits

- Compact ON/OFF control unit
- Supply voltage 24 V DC
- Output voltage 24 V DC
- Electronic overload protection
- LED indication for overload cut out
- Easy installation via front screw terminal

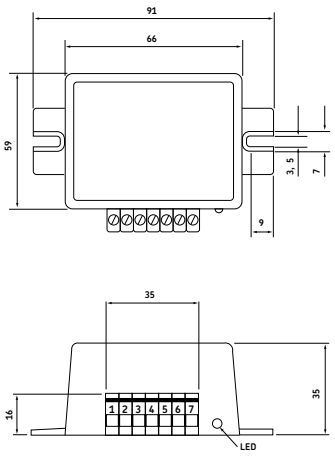
Suitable actuators and accessories

	CAR 24 V DC	CAT 24 V DC	CALA 36A 24 V DC	CARE 33 24 V DC	CAES 31 C
CAED 3-24R			●		●
CAED 5-24R	●	●		●	●
CAED 9-24R	●	●			●

Connecting diagram



Dimensional drawing



Technical data

	Unit	CAED 3–24R	CAED 5–24R	CAED 9–24R
Motor ports	#	1	1	1
Operating device ports	#	1	1	1
Battery ports	#	0	0	0
Limit switch ports	#	1	1	1
Single fault safety	yes/no	no	no	no
Encoder processing	yes/no	no	no	no
Input voltage	V DC	22 – 29	22 – 29	22 – 29
Frequency	Hz	N/A	N/A	N/A
Input current (max)	A	N/A	N/A	N/A
Standby power	W	stand by current <30 mA	stand by current <30 mA	stand by current <30 mA
Output voltage	V DC	24	24	24
Output current (max)	A	3	5	9
Duty cycle: intermittent	min.	2 min./8 min.	2 min./8 min.	2 min./8 min.
Duty cycle: short time	min.	2	2	2
Ambient temperature	°C	0 to +50	0 to +50	0 to +50
Humidity	%	N/A	N/A	N/A
Type of protection	IP	31	31	31
Approvals	EN/UL	EN 50081–1 EN 50082–1 EN 60601–1–2	EN 50081–1 EN 50082–1 EN 60601–1–2	EN 50081–1 EN 50082–1 EN 60601–1–2
Weight	kg	0,2	0,2	0,2

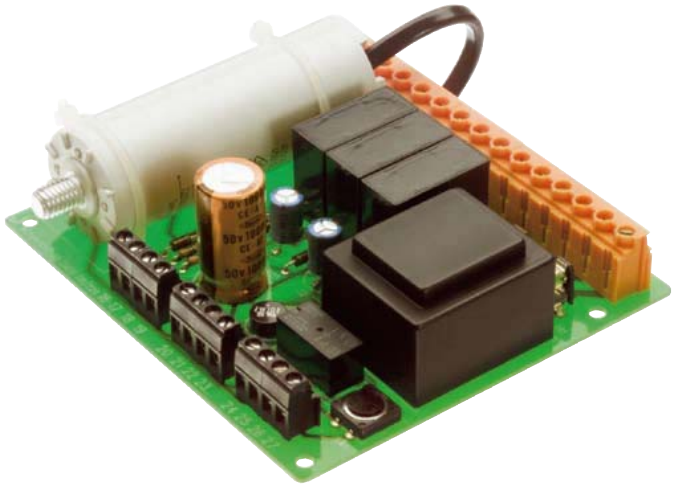
Product ordering keys

CAED 3–24R
CAED 5–24R
CAED 9–24R

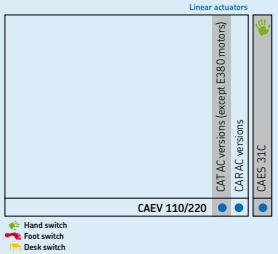
Control unit
CAEV

Benefits

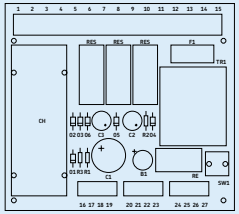
- Reliable pc board for single phase AC motors
- Can be used with both 120 V AC or 230 V AC
- Low voltage signal through cable handset
- Built-in option for limit switches
- Built-in option for thermal protection
- Easy installation via front screw terminals
- Compact design



Suitable actuators and accessories

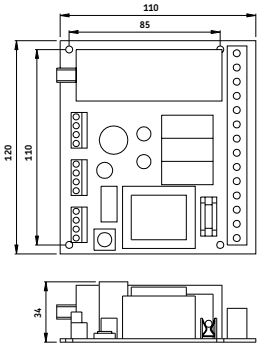


Connecting diagram*



*See next page for details

Dimensional drawing



Technical data

	Unit	CAEV 110/220
Motor ports	#	1
Operating device ports	#	1
Battery ports	#	0
Limit switch ports	#	1
Single fault safety	yes/no	no
Encoder processing	yes/no	no
Input voltage	V AC	120 or 230
Frequency	Hz	50/60
Input current (max)	A	N/A
Standby power	W	<15 VA
Output voltage	V AC	120 or 230
Output current (max)	A	N/A
Duty cycle: intermittent	min.	up to 100 %
Duty cycle: short time	min.	N/A
Ambient temperature	°C	0 to +50
Humidity	%	N/A
Type of protection	IP	N/A
Approvals	EN/UL	N/A
Weight	kg	0,4

*See duty factor diagram of relevant actuator

Product ordering key

CAEV 110/220

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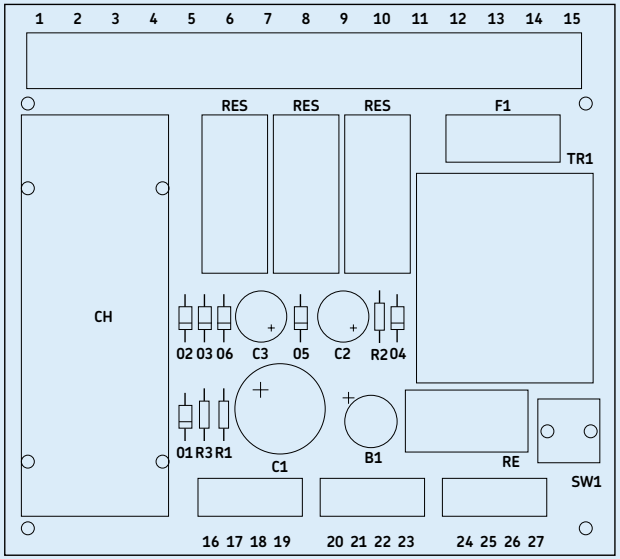
Connecting diagram



Terminal No.	Connections at 230 V AC	Connections at 120 V AC
1	net supply, phase	net supply, phase, short-circuit to terminal 3
2	net supply, phase, including fuse on p.c. board	net supply, phase, including fuse on p.c. board
3	short-circuit to terminal 4	short-circuit to terminal 1
4	short-circuit to terminal 3	short-circuit to terminal 5
5	net supply, zero	net supply, zero, short-circuit to terminal 4
6	ground	ground
7	motor: green/yellow wire	motor: green/yellow wire
8	motor: braun wire	motor: braun wire
9	motor: black wire (only motor with brake)	motor: black wire (only motor with brake)
10	motor: blue wire	motor: blue wire
11	motor: white wire	motor: white wire
12	start capacitor, replace if needed, see table 2	start capacitor, install correct capacitor, see table 2
13	start capacitor	start capacitor
14	motor: red wire, thermal switch, see note 1	motor: red wire, thermal switch, see note 1
15	motor: red wire, thermal switch, see note 1	motor: red wire, thermal switch, see note 1
16	limit switch, outer, see note 2 and 4	limit switch, outer, see note 2 and 4
17	limit switch, outer, see note 2 and 4	limit switch, outer, see note 2 and 4
18	limit switch, inner, see note 2 and 4	limit switch, inner, see note 2 and 4
19	limit switch, inner, see note 2 and 4	limit switch, inner, see note 2 and 4
20	op. device, outwards movement, see note 3 and 4	op. device, outwards movement, see note 3 and 4
21	op. device, outwards movement, see note 3 and 4	op. device, outwards movement, see note 3 and 4
22	op. device, inwards movement, see note 3 and 4	op. device, inwards movement, see note 3 and 4
23	op. device, inwards movement, see note 3 and 4	op. device, inwards movement, see note 3 and 4
24	no connection	no connection
25	no connection	no connection
26	external reset button, if wanted	external reset button, if wanted
27	external reset button, if wanted	external reset button, if wanted