

Double-handle controller D85



The double-handle controller D85 is a robust switching device for hoisting applications. The modular design enables the switching device to be used universally. The double-handle controller is resistant to oil, maritime conditions e.g. offshore /vessels, UV radiation typically from the sun.



Technical data

Mechanical life D85	8 million operating cycles
Operation temperature	-40°C to +60°C
Storage temperature	-50°C to +80°C
Degree of protection	IP54 front

	D85	S5	Example Q / Q		- Z	+ R	- B	- E...	- S..	- X
Basic unit	[Shaded]									
D85	[Shaded]									
Control-handle extended	[Shaded]									
Standard 160mm	[Shaded]									
S5 -20mm	[Shaded]									
S8 +20mm	[Shaded]									
<i>*Only available in combination with handle!</i>										
Grip- control-handle left	[Shaded]									
Knob	[Shaded]									
M Mechanical zero interlock	[Shaded]									
T Dead man	[Shaded]									
H Signal button	[Shaded]									
D Push button	[Shaded]									
Q T-grip	[Shaded]									
QD T-grip with push button side	[Shaded]									
B10... Palm grip B10... (see page 163)	[Shaded]									
Grip- control-handle right	[Shaded]									
<i>See grip-control-handle left</i>										
Axis 1: direction 1-2 left	[Shaded]									
Z Spring return	[Shaded]									
R Friction brake	[Shaded]									
Axis 2: direction 3-4 left	[Shaded]									
Z Spring return	[Shaded]									
R Friction brake	[Shaded]									

Double-handle controller D85

D85 S5 Q / Q - Z + R - B - E... - S... - X

Cover housing

B Cover housing

Interface *(description see following pages)*

E1xx Voltage output
 E2xx Current output
 E3xx CAN-interface
 E4xx CANOpen Safety
 E5xx Profibus DP interface
 E6xx Profinet
 E7xx Profinet safe

Plug connectors

S.. Standard plug connectors *(see page 129)*

Special model

X Special/ customer specified

1

Digital output	
Supply voltage	9-32V DC
Current carrying capacity	Direction signal 150mA
	Zero position signal 500mA
Mounting depth A	85mm
Wiring	Cable 500mm long without plug connector
	Optional with plug connector (<i>standard plug connectors see page 129</i>)
2 direction signals + 1 zero position signal (galvanically isolated) per axis	
	2 axis
	E001 2

Voltage output (not stabilized)	
Supply voltage	4,75-5,25V DC
Current carrying capacity	Direction signal 8mA
	Zero position signal 500mA
Mounting depth A	85mm
Wiring	Cable 500mm long without plug connector
	Optional with plug connector (<i>standard plug connectors see page 129</i>)
0,5...2,5...4,5V redundant + 2 direction signals per axis	
	2 Achsen
	E104 2
Output options	
Characteristic:	
Inverse dual	1
Dual	2
Inverse dual with dead zone +/- 3°	3
Dual with dead zone +/- 3°	4

Voltage output	
Supply voltage	9-32V DC (*11,5-32)
Current carrying capacity	Direction signal 150mA
	Zero position signal 500mA
Mounting depth A	85mm
Wiring	Cable 500mm long without plug connector
	Optional with plug connector (<i>standard plug connectors see page 129</i>)
0,5...2,5...4,5V redundant + 2 direction signals + 1 zero position signal (galvanically isolated) per axis	
	2 axis
	E112 2
0...5...10V redundant + 2 direction signals + 1 zero position signal (galvanically isolated) per axis, supply voltage 11,5 - 32V DC	
	2 axis
	E132 2
10...0...10V + 2 direction signals + 1 zero position signal (galvanically isolated) per axis, supply voltage 11,5 - 32V DC, sensor redundant with error monitoring and error signal	
	2 axis
	E136 2
Output options	
Characteristic:	
Inverse dual *1	1
Dual *1	2
Inverse dual with dead zone +/- 3° *1	3
Dual with dead zone +/- 3° *1	4
*1 not combinable with output E136X	
Single *2	5
Single with dead zone *2	6
*2 not combinable with output E112X and E132X	
Digital output signals:	
Output signals standard:	0
Direction signals and zero position signals 1,5A 24VDC	1
<i>Voltage output with other value on request!</i>	

Technical details may vary based on configuration or application! Technical data subject to change without notice!

Current output

Supply voltage	9-32V DC	
Current carrying capacity	Direction signal 150mA	
	Zero position signal 500mA	
Mounting depth A	85mm	
Wiring	Cable 500mm long without plug connector	
	Optional with plug connector (<i>standard plug connectors see page 129</i>)	
0...10...20mA + 2 direction signals + 1 zero position signal (galvanically isolated) per axis, sensor redundant with error monitoring and error signal		
	2 axis	E206 2
20...0...20mA + 2 direction signals + 1 zero position signal (galvanically isolated) per axis, sensor redundant with error monitoring and error signal		
	2 axis	E208 2
4...12...20mA + 2 direction signals + 1 zero position signal (galvanically isolated) per axis, sensor redundant with error monitoring and error signal		
	2 axis	E214 2
20...4...20mA + 2 direction signals + 1 zero position signal (galvanically isolated) per axis, sensor redundant with error monitoring and error signal		
	2 axis	E216 2
Output options		
	Single	5
	Single with dead zone +/- 3°	6
Digital output signals:		
	Output signals standard:	0
	Direction signals and zero position signals 1,5A 24VDC	1

Current output with other value on request!

CAN

Supply voltage	9-36V DC	
Idle current consumption	120mA	
Current carrying capacity	Direction signal 100mA	
	Zero position signal 100mA	
	External digital output for LEDs 5-30mA (dependent on the number of LEDs)	
	Digital switching output (potential-free) 100mA	
Mounting depth A	E3091: 85mm	
	E3091X: 105mm	
	E3101X - E3103X: 105mm	
	E3104X - E3105X: 125mm	
Protocol	CANOpen CiA DS 301 or SAE J 1939	
Baud rate	125kBit/s to 1Mbit/s (standard 250 kBit/s)	
Output value	255...0...255	
Wiring	CAN (IN) cable 300mm with plug connector M12 (male)	
	CAN (OUT) cable 300mm with plug connector M12 (female)	
	External in-/outputs cable 300mm without plug connector	
	External in-/outputs cable 300mm without plug connector (additionally from 32 in-/outputs)	

Optional with plug connector (standard plug connectors see page 129)

S

CAN expansion stage 1

E309 1

- 7 analoge Joystickachsen
- 16 digitale Joystickfunktionen
- Input for capacitive sensor

With additional external in-/outputs

- 8 external LED-outputs (dimnable), 1 switching output (potential-free, 100mA), 8 external digital inputs 2
- 16 external LED-outputs (dimnable), 1 switching output (potential-free, 100mA), 16* external digital inputs 3

External LED-outputs can be used in the grip for LEDs

*With the use of capacitive sensor, the external digital inputs reduce by one input!

CAN expansion stage 2

E310 1

- 10 analog joystick axis
- 16 digital joystick functions
- 2 inputs for capacitive sensor

With additional external in-/outputs

- 8 external LED-outputs (dimnable), 1 switching output (potential-free, 100mA), 8 external digital inputs 2
- 16 external LED-outputs (dimnable), 1 switching output (potential-free, 100mA), 16* external digital inputs 3
- 24 external LED-outputs (dimnable), 1 switching output (potential-free, 100mA), 24 external digital inputs 4
- 32 external LED-outputs (dimnable), 1 switching output (potential-free, 100mA), 32* external digital inputs 5

External LED-outputs can be used in the grip for LEDs

*With the use of capacitive sensor, the external digital inputs reduce by one input!

Main-axis with additional digital-/analog outputs separately wired (not via CAN)

- 2 direction signals + 1 zero position signal (potential-free) per main-axis

Additional analog outputs on request!

CANopen Safety

Supply voltage	9-36V DC
Idle current consumption	120mA
Current carrying capacity	Direction signal 100mA Zero position signal 100mA External digital output for LEDs 5-30mA (depending on the number of LED`s) Digital switching output (potential-free) 100mA
Mounting depth A	E4091: 85mm E4091X: 105mm E4101X - E4103X: 105mm E4104X - E4105X: 125mm
Protocol	CAN Safety CIA 304
Baud rate	125kBit/s to 1MBit/s (Standard 250 kBits)
Output value	255...0...255
Wiring	CAN (IN) cable 300mm with plug connector M12 (male) CAN (OUT) cable 300mm with plug connector M12 (female) External in-/outputs cable 300mm without plug connector External in-/outputs cable 300mm without plug connector (additionally from 32 in-/outputs)

Optional with plug connector (standard plug connectors see page 129)		S
CANOpen safety expansion stage 1		E409 1
- 7 analog joystick axis		
- 16 digital joystick functions		
- Input for capacitive sensor		
With additional external in-/outputs		
- 8 external LED-outputs (dimmable), 1 switching output (potential-free, 100mA), 8 external digital inputs		2
- 16 external LED-outputs (dimmable), 1 switching output (potential-free, 100mA), 16* external digital inputs		3
<i>External LED-outputs can be used in the grip for LEDs</i>		
<i>*With the use of capacitive sensor, the external digital inputs reduce by one input!</i>		
CANOpen safety expansion stage 2		E410 1
- 10 analog joystick axis		
- 16 digital joystick functions		
With additional external in-/outputs		
- 8 external LED-outputs (dimmable), 1 switching output (potential-free, 100mA), 8 external digital inputs		2
- 16 external LED-outputs (dimmable), 1 switching output (potential-free, 100mA), 16* external digital inputs		3
- 24 external LED-outputs (dimmable), 1 switching output (potential-free, 100mA), 24 external digital inputs		4
- 32 external LED-outputs (dimmable), 1 switching output (potential-free, 100mA), 32* external digital inputs		5
<i>External LED-outputs can be used in the grip for LEDs</i>		
<i>*With the use of capacitive sensor, the external digital inputs reduce by one input!</i>		
Main-axis with additional digital-/analog outputs separately wired (not via CAN)		
- 2 direction signals + 1 zero position signal (potential-free) per main-axis		3
<i>Additional analog outputs on request!</i>		



Profibus DP		S
Supply voltage	18-30V DC	
Baud rate	to 12MBit/s	
Output value	0...128...255	
Mounting depth A	105mm	
Wiring	Profibus, cable 100mm with plug D-Sub 9	
	Supply voltage (if applicable contact wiring) cable 12x0,25mm ² 300mm long without plug connector	
	External in-/outputs, cable 18x0,25mm ² 300mm long without plug connector	
	External in-/outputs (additional at 16E/16A) cable 18x0,25mm ² 300mm long without plug connector	
Optional with plug connector (standard plug connectors see page 129)		S
Profibus DP		E501 1
- 4 analog joystick axis		
- 16 digital joystick function		
- Input for capacitive sensor		
With additional external in-/outputs		
- 8 external LED-output, 8 external digital input		2
- 16 external LED-output, 16 external digital input		3
<i>External LED-outputs can be used in the grip for LEDs</i>		
With additional contact equipment separately wired (not via profibus)		
- 2 direction contacts + 1 zero position contact (not potential-free) per main-axis		1
- 1 zero position contact (potential-free) per main-axis		2

Technical details may vary based on configuration or application! Technical data subject to change without notice!



Profinet			
Supply voltage	18-30V DC		
Baud rate	to 100MBit/s		
Output value	0...512...1023		
Mounting depth A	105mm		
Verdrahtung	Profinet (1), cable 300mm with M12 plug connector (female) Profinet (2), cable 300mm with M12 plug connector (female) Supply voltage (if applicable contact wiring) cable 12x0,25mm ² 300mm long without plug connector External in-/outputs, cable 18x0,25mm ² 300mm long without plug connector External in-/outputs (additional at 16E/16A) cable 18x0,25mm ² 300mm long without plug connector Optional with plug connector (<i>standard plug connectors see page 129</i>)		S
Profinet		E601 1	
- 4 analog joystick axis			
- 16 digital joystick functions			
- Input for capacitive sensor			
With additional external in-/outputs			
- 8 external LED-outputs, 8 external digital inputs			2
- 16 external LED-outputs, 16 external digital inputs			3
<i>*External LED-outputs can be used in the grip for LEDs</i>			
Main-axis with additional signals separately wired (not via profinet)			
- 2 direction signals + zero position signal (potential-free) per main-axis			3

Profinet Safe			
Supply voltage	18-30V DC		
Baud rate	to 12MBit/s		
Output value	0...512...1023		
Mounting depth A	105mm		
Wiring	Profinet (1), cable 300mm with M12 plug connector (female) Profinet (2), cable 300mm with M12 plug connector (female) Supply voltage (if applicable contact wiring) cable 12x0,25mm ² 300mm long without plug connector External in-/outputs, cable 18x0,25mm ² 300mm long without plug connector External in-/outputs (additional at 16E/16A) cable 18x0,25mm ² 300mm long without plug connector Optional with plug connector (<i>standard plug connectors see page 129</i>)		S
- 4 analog joystick axis		E701 1	
- 16 digital joystick functions			
- Input for capacitive sensor			
With additional external in-/outputs			
- 8 external LED-outputs, 8 external digital inputs			2
- 16 external LED-outputs, 16 external digital inputs			3
<i>*External LED-outputs can be used in the grip for LEDs</i>			
Main-axis with additional signals separately wired (not via profinet safe)			
- 2 direction signals + zero position signal (potential-free) per main-axis			3

Other outputs

Voltage output for PVG32 0,25...0,5...0,75Us, power supply 9-32V DC

Wiring:

1. cable 14x0,25mm² 300mm long without plug connector
2. cable 14x0,25mm² 300mm long without plug connector (for axis 3+4 or grip function)

Optional with plug connector (*standard plug connectors see page 129*)

S

2 axis

E907 2

Main-axis with additional direction contacts per main-axis

4

8 Bit Gray-Code with direction signals per main-axis, supply voltage 9-36V DC

Wiring:

1. cable 37x0,14mm² 300mm long without plug connector (axis 1+2)
2. cable 37x0,14mm² 300mm long without plug connector (axis 3+4)

Optional with plug connector (*standard plug connectors see page 129*)

S

2 axis

E903 2

8 Bit Binär-Code with direction signals per main-axis, supply voltage 9-36V DC

Wiring:

1. cable 37x0,14mm² 300mm long without plug connector (axis 1+2)
2. cable 37x0,14mm² 300mm long without plug connector (axis 3+4)

Optional with plug connector (*standard plug connectors see page 129*)

S

2 axis

E904 2

Attachments

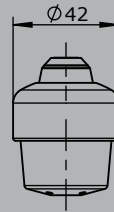
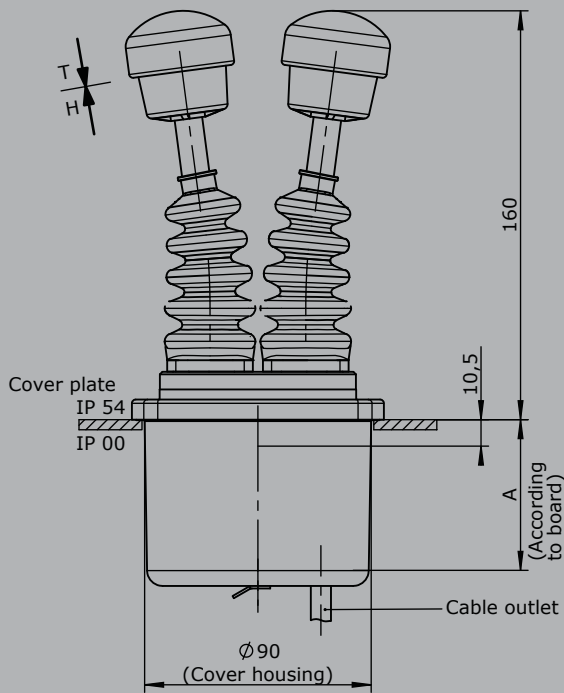
Z01 Mating connector (CAN) M12 (male insert) with 2m cable	20201140
Z02 Mating connector (CAN) M12 (female contact) with 2m cable	20202298
Z03 Mating connector (Profibus) straight	22201440
Z04 Mating connector (Profibus) 90° angled	22201741
Z05 Mating connector (Profinet) M12 (male insert) with 2m cable	5300000222

Double-handle controller D85

T = Dead man's button
H = Signal button

Knob solid
D= Push button

T - grip
D= Push button



To build in:
Direction 1-2
Direction 3-4

