



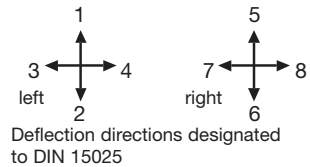
Type V85L-2ZS+2ZS-B...

The multi-axis controller V 85 is a rugged switching device according IEC/EN 60947-5-1 for electro-hydraulic applications. The modular design enables the switching device to be used universally. The V 85 is resistant to oil, maritime climate, ozone and UV radiation.

**Contact complement 0,5 A 110 V AC 15 or 1,5 A 24 V DC 13**  
**I min > 0,2 mA 2 V DC 12 Gold plated for max. load of 0,12 Watt (standard)**

Mechanical life V 85	10 million (operating cycles)
Mechanical life VV 85	20 million (operating cycles)
Permissible ambient temperature	Operation -40° C to +60° C
	Storage -50° C to +80° C
Climate resistance	
Damp heat constant	IEC 60068-2-78
Damp heat cyclic	IEC 60068-2-30
Degree of protection front	IP 54 IEC/EN 60529
Technical data see catalog 4/100	
Description data see catalog 4/020	

Spindle block with schematic representation of the master controller installation and deflection directions.  
Version shown for left-hand side installation (right-hand side installation is mirror image).



Pos.	V 85.1	V 85	Type expansion		Weight gramm	Type	Price EURO
1					800	V 85.1	
2					800	VV 85.1	
3					900	V 85	
4					900	VV 85	
5							
7.1	Multi-axis controller left	(dir. 1-2, 3-4)				L	
7.2	Multi-axis controller right	(dir. 5-6, 7-8)				R	
10	Gate cross-shaped	(prohibits diagonal shifting)			60	P	
11	Gate special-shaped	(e.g. H-gate)			60	PX	
20	Control-handle with knob solid						
21	Control-handle with latch for mechanical zero interlock by lifting				50	M	
22	Control-handle with dead man's button 1 NO				100	T	
23	Control-handle with signal button 1 NO				100	H	
24	Control-handle with push button 1 NO				110	D	
25	Control-handle with flat push button 1 NO				110	DV	
26	Control-handle with palm grip B 1				40	B 1	
27	Control-handle with palm grip B 1 with push button top 1 NO				60	B 1T	
28	Control-handle long or short						
28.2		-20 mm				S5	
28.3		+20 mm				S8	
29	More knobs, grips and T-grips with and without signal devices see catalog 1/270ff						
30	Masterswitch (contact) switching sequence -0-			No. of contacts 1	20	1	
31				2	40	2	
32	Direction 1-2 and 3-4 each 1 masterswitch						
33	Switching program according contact-arrangement MS... see catalog 4/001		A...				
34	or to your contact-arrangement						
38	Spring return in 0-position	(for each direction)			30	Z	
39	Friction brake adjustable	(for each direction)			30	R	
40	Potentiometer e.t.c. each direction with mounted Magnet KEM for redundant Hallsensors				70	S	
42	Voltage output 0,5-2,5-4,5 Volt electronic for 1 axis		E411				
43	electronic for 2 axis		E412				
	Technical data: Supply voltage 4,6-5,5 Volt output characteristic Linear						
45	more Electronic (Amplifier, Profi-Bus, CAN-Bus) see catalog 3/510ff		E...				
50	Cover housing				300	B	
51	Filter plug M 20 for air-condition				20		
52	Cable entry M 20 with anti-kink protection and strain relief				30		
53	Plug in socket 9-pole female insert D-SUB9 wired				150		
54	Connector 9-pole male insert D-SUB9 unwired				150		
55	Wiring plug in socket or connector each wired-connection						
60	Indicating labels not engraved with 2 or 4 arrows						
61	Engraving, each 10 characters						

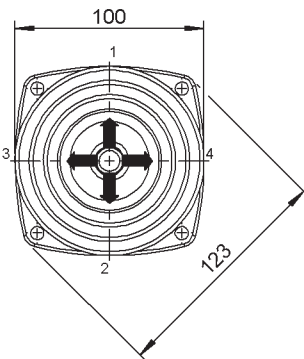
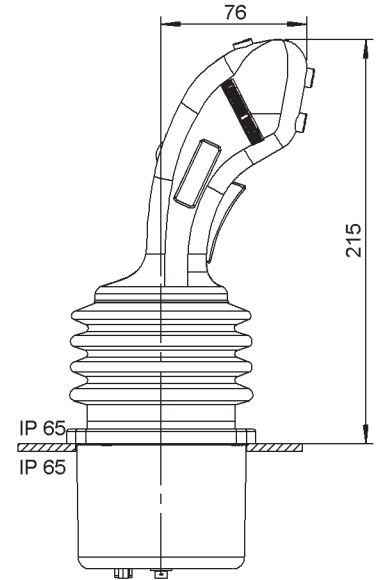
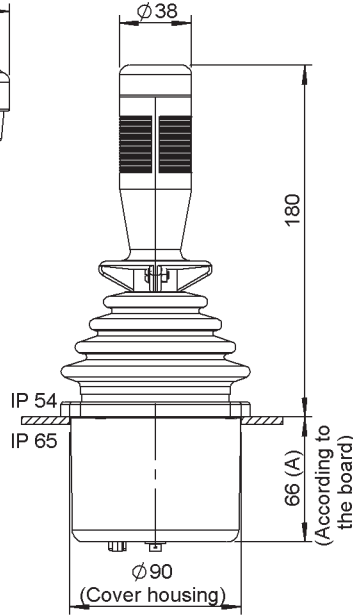
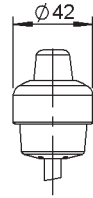
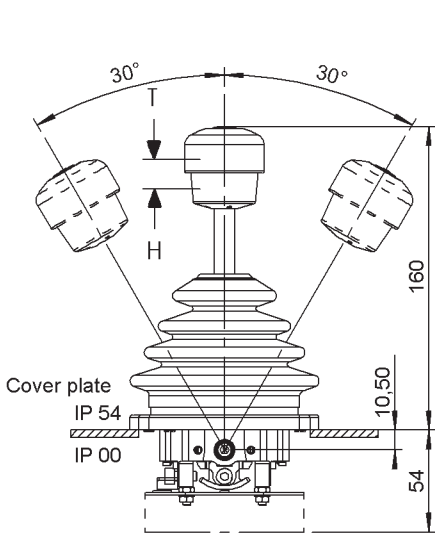


T = dead man's button  
H = signal button

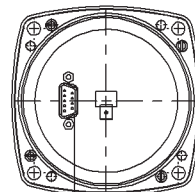
Knob solid  
D = push button

Palm grip B1  
B 1T = dead man's button  
see catalog 1/284

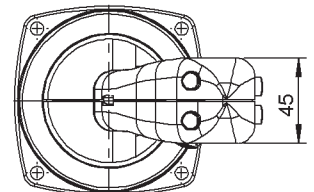
Palm grip B3  
see catalog 1/286  
for 3. direction 11-12  
for 4. direction 13-14



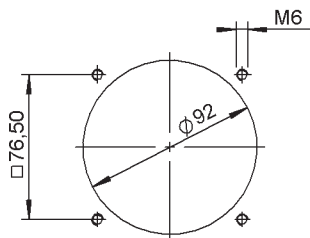
**view X**



Plug in socket  
D-Sub 9



**Hole pattern**



	V85	L	S5	P	D - 2	Z	S + 2	Z	S	-B-	-X-	A05	E...
multi-axis controller	✓												
installation side L o. R		✓											
special control handle			✓										
gate				✓									
handle					✓								
contact dir. 1-2 (5-6)						✓							
spring return dir. 1-2 (5-6)							✓						
hallsensor dir. 1-2 (5-6)								✓					
contact dir. 3-4 (7-8)									✓				
										✓			
											✓		
												✓	
													✓

electronic description  
dir. 1-2 (5-6) + dir. 3-4 (7-8)  
see 3/510ff  
Arrangement dir. 1-2 (5-6) +  
dir. 3-4 (7-8) see 4/001  
special please describe  
housing  
Hallsensor dir. 3-4 (7-8)  
spring return dir. 3-4 (7-8)



Pos.				Weight gramm	Type	Price EURO
10	Voltage output +0,5...2,5...4,5 Volt		EP/324	150		
11	Technical data:	electronic for 1 axis			E421□	
12	Supply voltage 8-32 VDC* <input type="checkbox"/>	electronic for 2 axis			E422□	
13	(Optional 4,5...7,5 VDC) <input type="checkbox"/>	electronic for 3 axis			E423□	
14	Output characteristic linear mounting depth A (103 mm)	electronic for 4 axis			E424□	
20	Voltage output +0...5...10 Volt		EP/318	150		
21	Technical data:	electronic for 1 axis			E431	
22	Supply voltage 18-30 VDC*	electronic for 2 axis			E432	
23	Output characteristic linear	electronic for 3 axis			E433	
24	mounting depth A (103 mm)	electronic for 4 axis			E434	
30	Voltage output +10...0...10 Volt		EP/318	150		
31	Technical data:	electronic for 1 axis			E441	
32	Supply voltage 18-30 VDC*	electronic for 2 axis			E442	
33	Output characteristic linear	electronic for 3 axis			E443	
34	mounting depth A (103 mm)	electronic for 4 axis			E444	
40	Voltage output ± 10Volt		EP/318	150		
41	Technical data:	electronic for 1 axis			E451	
42	Supply voltage 18-30 VDC*	electronic for 2 axis			E452	
43	Output characteristic linear	electronic for 3 axis			E453	
44	mounting depth A (103 mm)	electronic for 4 axis			E454	
50	Voltage output for proportional valve PVG32 (3...6...9 Volt or 6...12...18 Volt)		EP/372	150		
51	Technical data:	electronic for 1 axis			E461□	
52	Supply voltage 9-36 VDC*	electronic for 2 axis			E462□	
53	Output characteristic linear	electronic for 3 axis			E463□	
54	mounting depth A (103 mm) Supply voltage 12 Volt <input type="checkbox"/> , 24 Volt <input type="checkbox"/>	electronic for 4 axis			E464□	
60	output power +20...4...+20 mA		EP/324	150		
61	Technical data:	electronic for 1 axis			E631□	
62	Supply voltage 8-32 VDC* <input type="checkbox"/>	electronic for 2 axis			E632□	
63	(Optional 4,5...7,5 VDC) <input type="checkbox"/>	electronic for 3 axis			E633□	
64	Output characteristic linear mounting depth A (103 mm)	electronic for 4 axis			E634□	
70	output power +4...+12...+20 mA		EP/370	150		
71	Technical data:	electronic for 1 axis			E641□	
72	Supply voltage 8-32 VDC* <input type="checkbox"/>	electronic for 2 axis			E642□	
73	(Optional 4,5...7,5 VDC) <input type="checkbox"/>	electronic for 3 axis			E643□	
74	Output characteristic linear mounting depth A (103 mm)	electronic for 4 axis			E644□	
80	8bit Gray-code	DIGITAL	EP/340	150		
81	Technical data:	electronic for 1 axis			E811	
82	Power supply 9-36 VDC*	electronic for 2 axis			E812	
83	Output PNP 24 VDC 10mA	electronic for 3 axis			E813	
84	Output characteristic linear mounting depth A (103 mm)	electronic for 4 axis			E814	
90	8bit Binär-code	DIGITAL	EP/340	150		
91	Technical data:	electronic for 1 axis			E821	
92	Power supply 9-36 VDC*	electronic for 2 axis			E822	
93	Output PNP 24 VDC 10mA	electronic for 3 axis			E823	
94	Output characteristic linear mounting depth A (103 mm)	electronic for 4 axis			E824	
100	Humidity protection (circuit board moulded) for use with high condensation					
	*Other voltages on request					



Pos.	for mounting on: V 85, VV 85			Weight gramm	Type	Price EURO
1	<p>Profi-Bus DP interface (DIN 19245 part 3)</p> <p>Technical data: Power supply 18-32 V DC distinctively poled</p> <p>Profi-Bus Baud rate max. 12 MBit/s</p> <p>Address outside adjustable 0...99 by rotary switch (default 99)</p> <p>Hallsensors output value 0 / 128 / 255 or 255 / 0 / 255</p> <p>Input 4 analog ports for 3 potentiometers (4-axis)</p> <p>16 digital ports for 4 x 2 direction-contacts and for switches in the palm grip</p> <p>16 digital externally ports for 16 switches</p> <p>Output 8 LED-outputs</p> <p>Connection D-SUB 9 socket Profi-Bus (female insert) +</p> <p>Connector 2-pole</p>		EB/85	150	EPB11	
2	<p>CAN-Bus interface (Protocol CAN open CiA DS 301, SAE J 1939*)</p> <p>Technical data: Power supply 9-32 V DC distinctively poled</p> <p>CAN-Bus level: physical layer acc. ISO 11898</p> <p>Baud rate 125 kBit/s...1Mbit/s</p> <p>Input 9 analog ports for 9 potentiometer (4 axis)</p> <p>16 digital ports for grip functions</p> <p>32 digital externally ports</p> <p>Output 8 digital externally outputs for LED drive</p> <p>Connection D-SUB 9 socket protection IP 65 (male) CAN in +</p> <p>Connection D-SUB 9 socket protection IP 65 (female) CAN out</p> <p>*Protocoll CAN open customer-specific after request</p>		EB/201	150	ECB11	