

# Handles and handlevers

TECHNICAL CATALOG



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### Additional information

This catalogue shows the product in the most standard configurations.  
Please contact our Sales Dpt. for more detailed information or special requests.

### WARNING!

All specifications of this catalogue refer to the standard product at this date.  
Walvoil, oriented to a continuous improvement, reserves the right to discontinue, modify or revise the specifications, without notice.

**WALVOIL IS NOT RESPONSIBLE FOR ANY DAMAGE CAUSED BY AN INCORRECT USE OF THE PRODUCT.**

4<sup>th</sup> edition March 2020

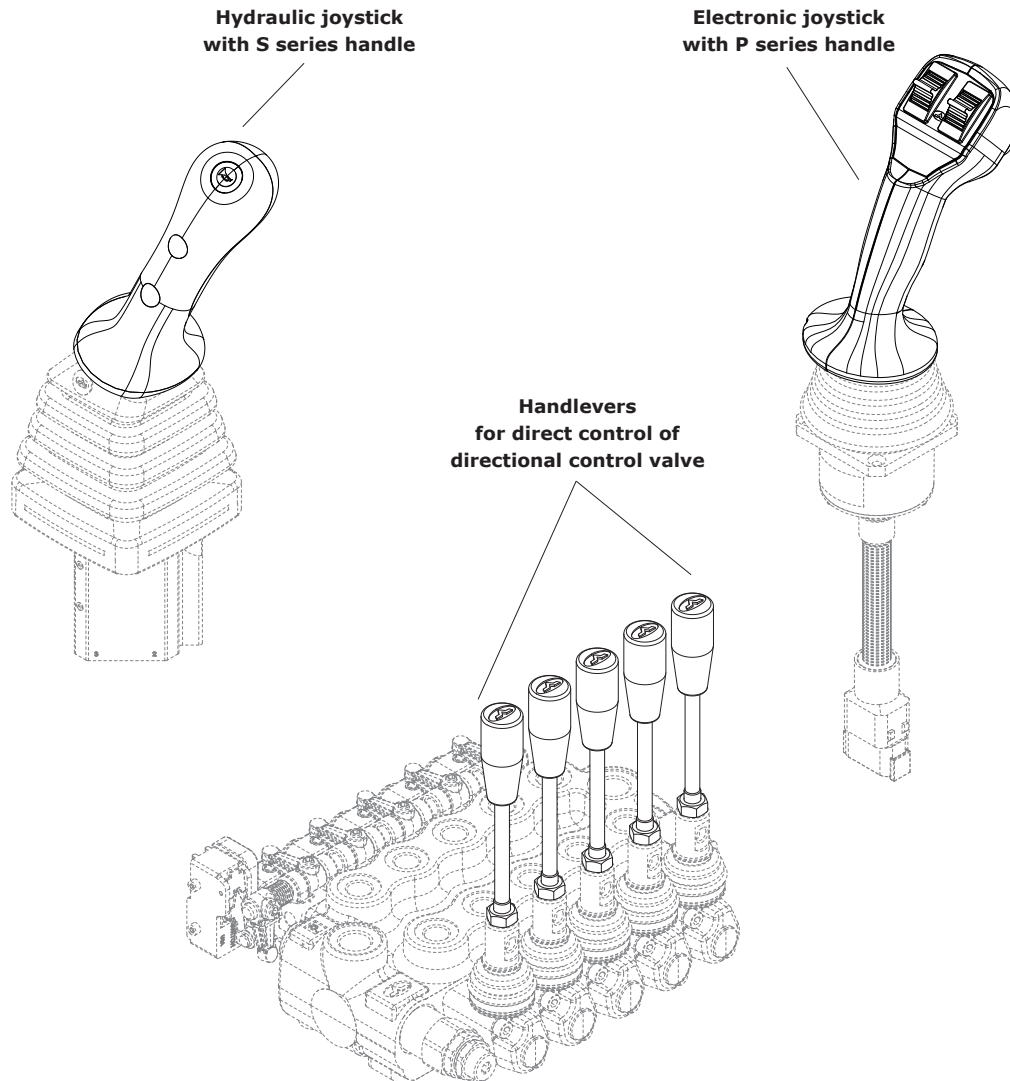
## System description

Walvoil offers a wide range of handles and hand levers, designed to ensure maximum reliability and comfort thanks to their ergonomic profile and high versatility.

The Walvoil handles are designed to be mounted on the range of control devices such as hydraulic and electronic joysticks and remote controls for flexible cable.

Depending on the model, they can be configured with on/off devices (eg. push-buttons, rocker switches), proportional devices (eg. rollers), and LED signal.

Hand levers line allows to satisfy all Walvoil directional valve range; they are available with several shapes and lengths, with or without microswitches.



General features		AMH series	P series	H series	S series	V series	J series	10 series
ON/OFF* functions	push-button	10	8	8	4	1	1	1
	rocker switch	-	2	2	-	-	1	1
Proportional functions*		1	2	1	1	-	-	-
Dead man		•	•	•	-	-	-	-
Max. current rating		5 A	16 A	7A	7A	4A	6A	6A

(\*) Max. number of functions

## Joins-handle tables

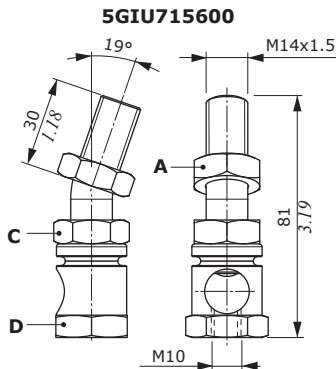
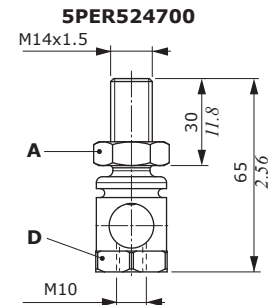
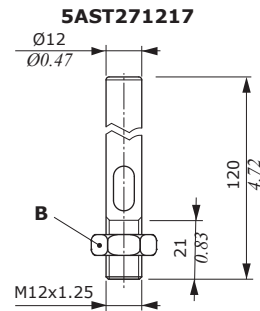
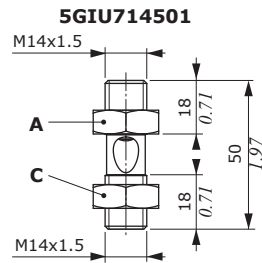
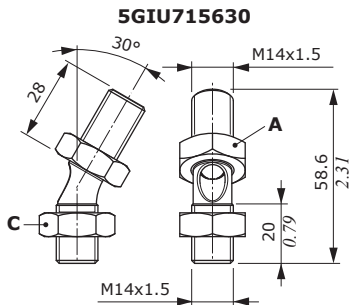
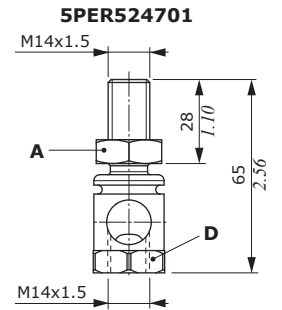
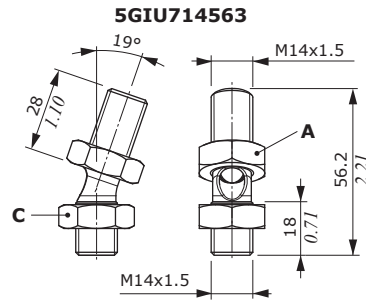
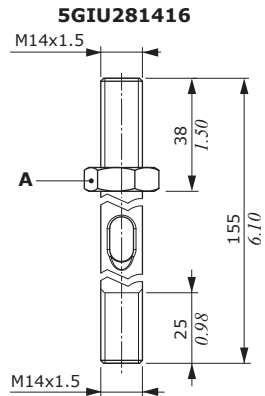
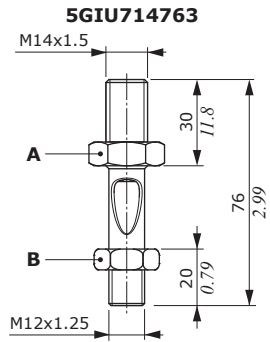
Type	Description	Joint type			Handle type						
		Code	Wrench and tightening torque (on handle)	Wrench and tightening torque (on control valve)	AMH series	P series	H series	S series	V series	J series	10 series
/	Universal joint ( <b>included</b> in handle code)	3GIU119370	-	19	-	-	•	-	-	-	-
		3GIU119373	-	19	-	•	-	-	-	-	-
		3GIU119250	-	19	•	-	-	-	-	-	-
<b>Additional joint for handle assembly on remote controls: to be screwed on universal joint, where present</b>											
3	For SVM100	5GIU714763	22 / 32 Nm - 23.6 lbft	19 / 30 Nm - 22 lbft	•	•	•	-	•	-	•
4	For SCF031	5AST281416	22 / 32 Nm - 23.6 lbft	-	•	•	•	-	•	-	•
7	For SVM400-SVM400EMD-SVM405-SVM430-SVM450-SVM600 sloping 19° left	5GIU714563	22 / 32 Nm - 23.6 lbft	22 / 42 Nm - 31 lbft	•	•	•	•	•	-	-
8	For SVM400-SVM400EMD-SVM405-SVM430-SVM450-SVM600 sloping 19° right	5GIU714563	22 / 32 Nm - 23.6 lbft	22 / 42 Nm - 31 lbft	•	•	•	•	•	-	-
9	For SVM400-SVM430-SVM450	5PER524701	22 / 32 Nm - 23.6 lbft	24 / 24 Nm - 17.7 lbft	•	•	•	•	•	-	•
E	For SVM400-SVM400EMD-SVM430 sloping 30° left	5GIU715630	22 / 32 Nm - 23.6 lbft	22 / 42 Nm - 31 lbft	•	•	•	•	•	-	-
F	For SVM400-SVM400EMD-SVM430 sloping 30° right	5GIU715630	22 / 32 Nm - 23.6 lbft	22 / 42 Nm - 31 lbft	•	•	•	•	•	-	-
G	For SVM400EMD	5GIU714501	22 / 32 Nm - 23.6 lbft	22 / 42 Nm - 31 lbft	•	•	•	•	•	-	-
H	For SVM400-SVM400EMD-SVM430 sloping 19° forward	5GIU714563	22 / 32 Nm - 23.6 lbft	22 / 42 Nm - 31 lbft	•	•	•	•	•	-	-
I	For SVM400-SVM400EMD-SVM430 sloping 19° reverse	5GIU714563	22 / 32 Nm - 23.6 lbft	22 / 42 Nm - 31 lbft	•	•	•	•	•	-	-
L	For SVM400-SVM400EMD-SVM430 sloping 30° forward	5GIU715630	22 / 32 Nm - 23.6 lbft	22 / 42 Nm - 31 lbft	•	•	•	•	•	-	-
M	for SVM400-SVM400EMD-SVM430 sloping 30° reverse	5GIU715630	22 / 32 Nm - 23.6 lbft	22 / 42 Nm - 31 lbft	•	•	•	•	•	-	-
-	For SVM100-SVM150	5AST271217	-	19 / 30 Nm - 22 lbft	-	-	-	-	-	•	-

## For control devices no longer available

Type	Description	Joint type			Handle type						
		Code	Wrench and tightening torque (on handle)	Wrench and tightening torque (on control valve)	AMH series	P series	H series	S series	V series	J series	10 series
1	For SV01	5PER524700	22 / 32 Nm - 23.6 lbft	24 / 24 Nm - 17.7 lbft	•	•	•	-	•	-	•
3	For SV10	5GIU714763	22 / 32 Nm - 23.6 lbft	24 / 24 Nm - 17.7 lbft	•	•	•	-	•	-	•
5	For SV01 sloping 19° left	5GIU715600	22 / 32 Nm - 23.6 lbft	22 / 24 Nm - 17.7 lbft	•	•	•	-	•	-	-
6	For SV01 sloping 19° right	5GIU715600	22 / 32 Nm - 23.6 lbft	24 / 24 Nm - 17.7 lbft	•	•	•	-	•	-	-



### Additional joint for handle assembling on remote controls



#### Wrenches and tightening torque

- A** = wrench 22 - 32 Nm - 23.6 lbft
- B** = wrench 19 - 30 Nm - 22 lbft
- C** = wrench 22 - 42 Nm - 31 lbft
- D** = wrench 24 - 24 Nm - 17.7 lbft





## AMH series handles


- Ergonomic design
- Available with different proportional and ON/OFF functions
- High resistance thermoplastic material
- Plate with customizable symbols

### General features


Body, shell and plate material	Nylon® 6, 30% SV
IP weather protection (assembled)	depending on configuration
Ambient temperature	from -20°C to 60°C / from -4°F to 140°F
UV resistance	according to IEC68-2-5, S test C procedure

### Electric device features


#### ON/OFF push button with detent

Version	with detent	
Contact type	NA	
Current rating	200 mA @ 12 VDC	
Mechanical life (nr. of operations)	10 <sup>6</sup>	
Electric life (nr. of operations)	5x10 <sup>5</sup>	
Weather protection	IP67 with handle mounting	


#### LED

Supply voltage (max.)	12V (10 mA)	
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#### ON/OFF push button

Version	ritorno a molla	
Contact type	NA	
Current rating	2 A resistive load @ 12 VDC	
Mechanical life (nr. of operations)	10 <sup>6</sup>	
Electric life (nr. of operations)	200x10 <sup>3</sup>	
Weather protection	IP67 with handle mounting	

#### Proportional roller

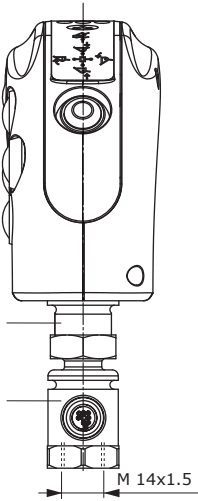
Supply	9-32 VDC	
Max. current consumption	< 24 mA	
Max. output current	1 mA	
Output signal (range)	0.5 - 4.5 V	
Output signal (central position)	2.5V	
Signal tolerance (central position and stroke end)	±100 mV	
Minimum load	10 Ω	
Actuator deflection angle	± 35° (±1°)	
Mechanical life (nr. of operations)	10 <sup>6</sup>	
Operating force	2 N	
Mechanical vibration	IEC 68-2	
Mechanical shock	EN 60068-2-29 (pulse 400m/s <sup>2</sup> x 6 ms, 100 times)	
Weather protection	IP67-IP69K	
EMC compatibility	ISO 13766 ISO 14982	

#### Cables

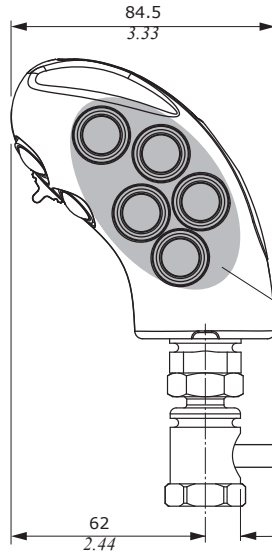
Conductor material	copper with tinned ends
Nr. of conductors	up to 12
Conductor section	from AWG16 to AWG20
Insulating material	PVC
Protective covering material	fireproof polyurethane

### Dimensions

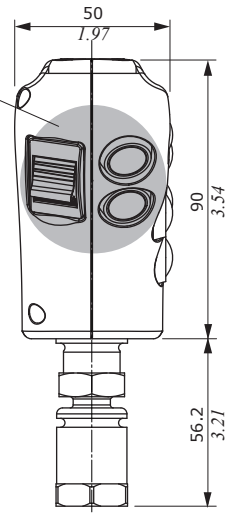
**Operator view**



**Side view**



**Front view**

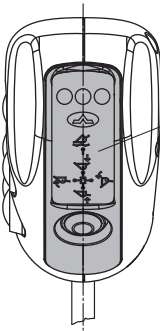
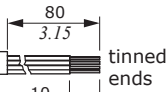


**Front zone**

It can be configured up to 4 push-buttons or up to 2 push-buttons and 1 roller

**Side zone**

It can be configured up to 5 push-buttons or up to 2 push-buttons and 1 roller



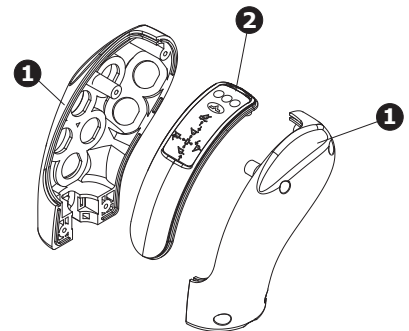
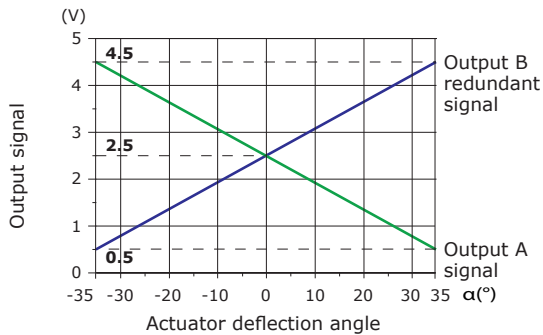
**Holder plate**

It can be configured up to 1 push-button and 3 LEDs with or without normative

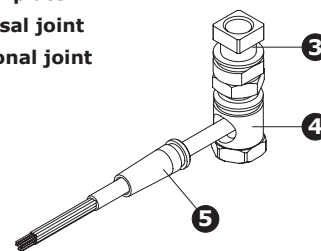
**NOTES**

Configuration with 2 roller is not available.  
The handle can be configured with up to 4 push-buttons with protection diode.

**Proportional roller output detail**

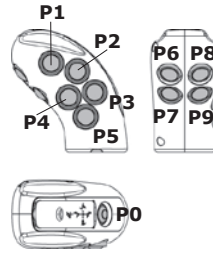
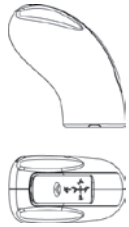


- 1) Half-shell
- 2) Holder plate
- 3) Universal joint
- 4) Additional joint
- 5) Cable

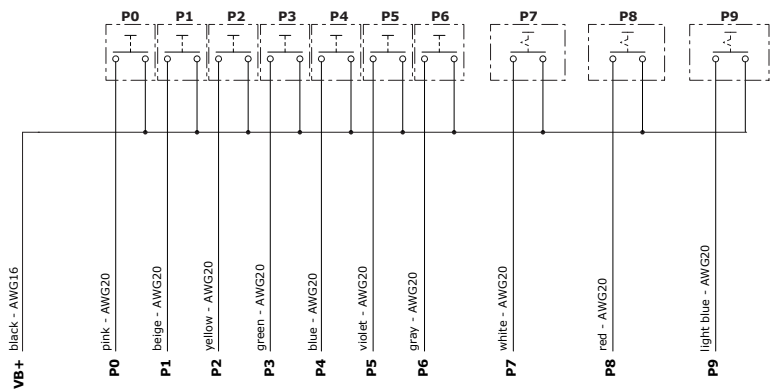


Configurations

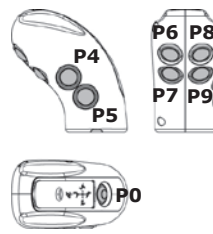
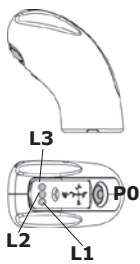
Code	<b>2IM3000000</b>
Description	AMH0000A9-(E2)
Plate	Without push-buttons and LED
Front zone	Without push-buttons
Side zone	Without push-buttons
Joint	Standard for SVM400-430 joystick



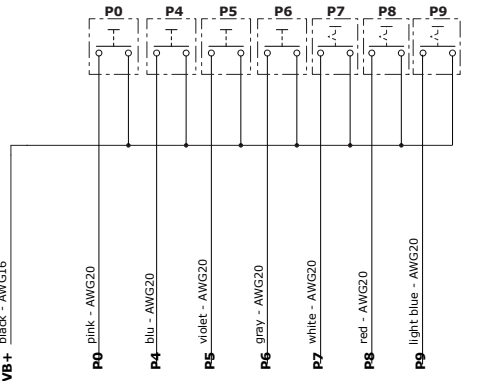
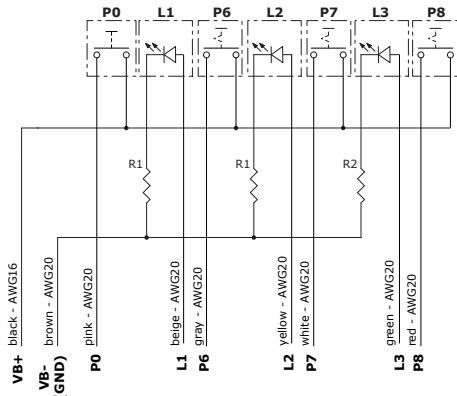
Code	<b>2IM3000001</b>
Description	AMHT1000A9-0R3035-1R2035-2R2035-3R2035-4R2024-5R2035-6R2D035-7R2D035-8R2D035-9R2D035-(E3)
Plate	1 push-button with detent (P0)
Front zone	4 push-buttons with spring return (P6-P7-P8-P9)
Side zone	5 push-buttons with spring return (P1-P2-P3-P4-P5)
Joint	Standard for SVM400-430 joystick



Code	<b>2IM3000002</b>
Description	AMHT0403A9-0RF035-6R2035-7R2035-8R2035-ALV035-BLV035-CLR035-(12VDC)-(E3)
Plate	3 LED (L1-L2-L3) 12 VDC, 1 push-button with detent (P0)
Front zone	3 push-buttons with spring return (P6-P7-P8)
Side zone	Without push-buttons
Joint	Standard for SVM400-430 joystick


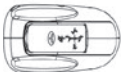


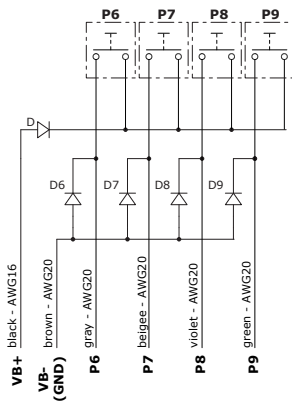
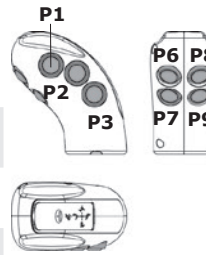
Code	<b>2IM3000003</b>
Description	AMHT0700A9-0RF035-4R2035-5R2035-6R2035-7R2035-8R2035-9R2035-(E2)
Plate	1 push-button with detent (P0)
Front zone	4 push-buttons with spring return (P6-P7-P8-P9)
Side zone	2 push-buttons with spring return (P4-P5)
Joint	Standard for SVM400-430 joystick



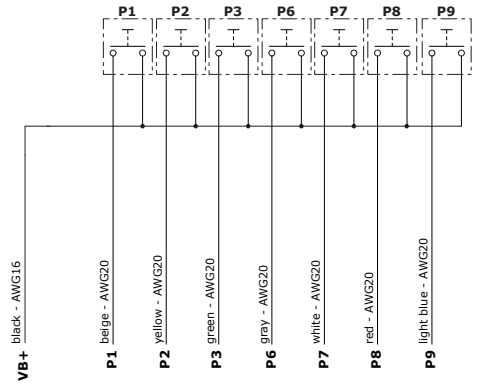
NOTE - For different joint see page 4. For different handle configurations, contact our Sales Dept.



### Configurations

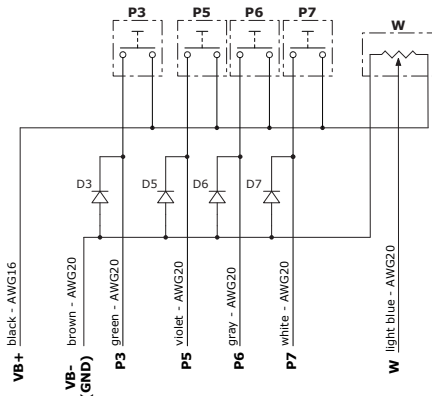
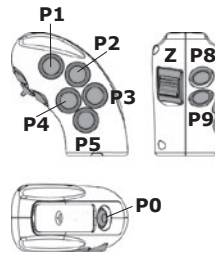
	<b>Code</b>	<b>2IM3000004</b>
	<b>Description</b>	AMH0400A9-6R2035-7R2035-8R2035-9R2035-(E2)
	<b>Plate</b>	Without push-buttons and LED
	<b>Front zone</b>	4 push-buttons with spring return (P6-P7-P8-P9) with protect diode
	<b>Side zone</b>	Without push-buttons
	<b>Joint</b>	Standard for SVM400-430 joystick



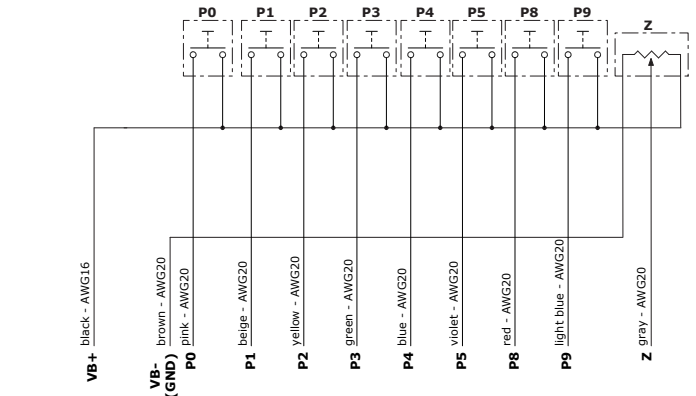
	<b>Code</b>	<b>2IM3000005</b>
	<b>Description</b>	AMH0700A9-1R2035-2R2035-3R2035-6R2035-7R2035-8R2035-9R2035-(E3)
	<b>Plate</b>	Without push-buttons and LED
	<b>Front zone</b>	4 push-buttons with spring return (P6-P7-P8-P9)
	<b>Side zone</b>	3 push-buttons with spring return (P1-P2-P3)
	<b>Joint</b>	Standard for SVM400-430 joystick



	<b>Code</b>	<b>2IM3100000</b>
	<b>Description</b>	AMHT0410A9-3R2D035-5R2D035-6R2D035-7R2D035-WN140035-(E1)
	<b>Plate</b>	Without push-buttons
	<b>Front zone</b>	2 push-buttons with spring return (P6-P7) with protect diode
	<b>Side zone</b>	2 push-buttons with spring return (P3-P5) with protect diode, 1 proportional roller (W)
	<b>Joint</b>	Standard for SVM400-430 joystick



	<b>Code</b>	<b>2IM3100001</b>
	<b>Description</b>	AMHT0810A9-0RF035-1R2035-2R2035-3R2035-4R2035-5R2035-8R2035-9R2035-ZN140035-(E1)
	<b>Plate</b>	1 push-button with detent (P0)
	<b>Front zone</b>	2 push-buttons with spring return (P8-P9), 1 proportional roller (Z)
	<b>Side zone</b>	5 push-buttons with spring return (P1-P2-P3-P4-P5)
	<b>Joint</b>	Standard for SVM400-430 joystick



NOTE - For different joint see page 4. For different handle configurations, contact our Sales Dept.





## P series handle


- Ergonomic design
- High resistance thermoplastic resin
- Available with different proportional and ON/OFF functions
- Available with or without "dead man" trigger

### General features


Body, shell and plate material	Nylon® - MZN
IP weather protection (assembled)	depending on configuration
Ambient temperature	from -20°C to 60°C / from -4°F to 140°F
UV resistance	according to IEC68-2-5, S test C procedure

### Electric device features


#### ON/OFF push button

Version	spring return	
Contact type	normally open	
Current rating	2 A resistive load @ 12 VDC	
Mechanical life (nr. of operations)	10 <sup>6</sup>	
Electric life (nr. of operations)	200x10 <sup>3</sup>	
Weather protection	IP67 with handle mounting	


#### ON/OFF push button with detent

Version	with detent	
Contact type	NA	
Current rating	200 mA @ 12 VDC	
Mechanical life (nr. of operations)	10 <sup>6</sup>	
Electric life (nr. of operations)	5x10 <sup>5</sup>	
Weather protection	IP67 with handle mounting	


#### Rocker switch

Version	with detent	
Contact type	on/off/on	
Current rating	2 A resistive load @ 12 VDC	
Mechanical life (nr. of operations)	10 <sup>5</sup>	
Electric life (nr. of operations)	200x10 <sup>3</sup>	
Weather protection	IP68	


#### FNR rocker switch

Version	with detent	
Contact type	on/off/on	
Current rating	2 A resistive load @ 12 VDC	
Mechanical life (nr. of operations)	10 <sup>6</sup>	
Weather protection	IP67	


#### LED

Supply voltage (max.)	12V 10 mA	
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#### "Dead man" trigger

Version	spring return	
Contact type	NA	
Current rating	2 A resistive load @ 12 V	
Mechanical life (nr. of operations)	10 <sup>6</sup>	
Electric life (nr. of operations)	200x10 <sup>3</sup>	
Weather protection	IP67	

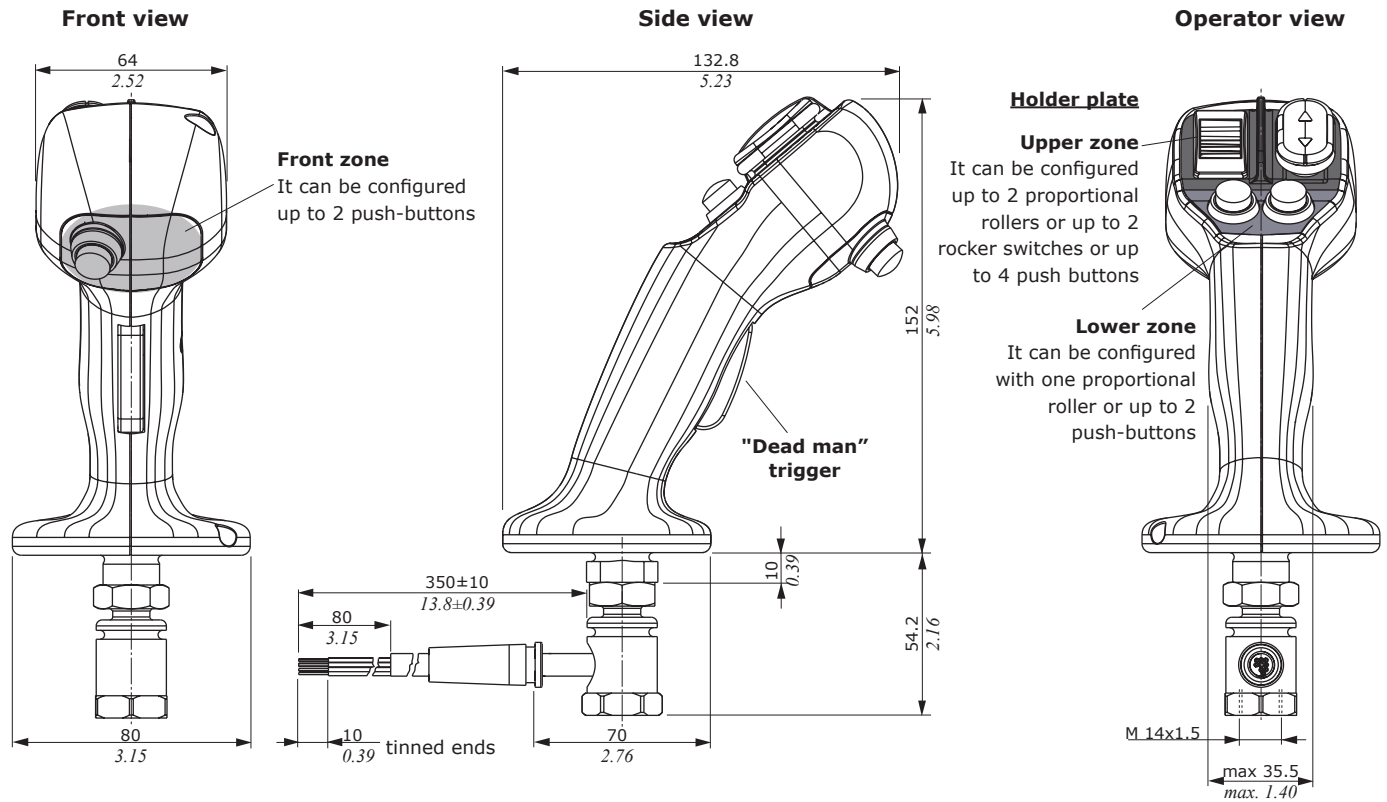
#### Proportional roller

Supply	9-32 VDC	
Max. current consumption	< 24 mA	
Max. output current	1 mA	
Output signal (range)	0.5 - 4.5 V	
Output signal (central position)	2.5V	
Signal tolerance (central position and stroke end)	±100 mV	
Minimum load	10 Ω	
Actuator deflection angle	± 35° (±1°)	
Mechanical life (nr. of operations)	10 <sup>6</sup>	
Operating force	2 N	
Mechanical vibration	IEC 68-2	
Mechanical shock	EN 60068-2-29 (pulse 400m/s <sup>2</sup> x 6 ms, 100 times)	
Weather protection	IP67-IP69K	
EMC compatibility	ISO 13766 ISO 14982	

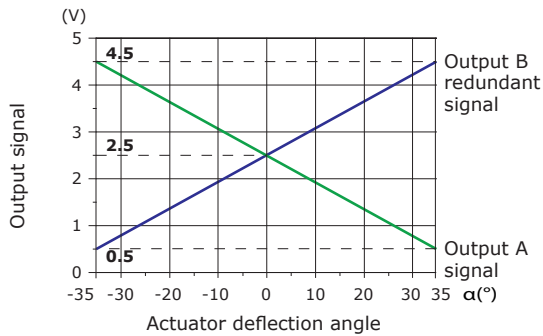
#### Cables

Conductor material	copper with tinned ends
Nr. of conductors	up to 12
Conductor section	from AWG16 to AWG20
Insulating material	PVC
Protective covering material	fireproof polyurethane

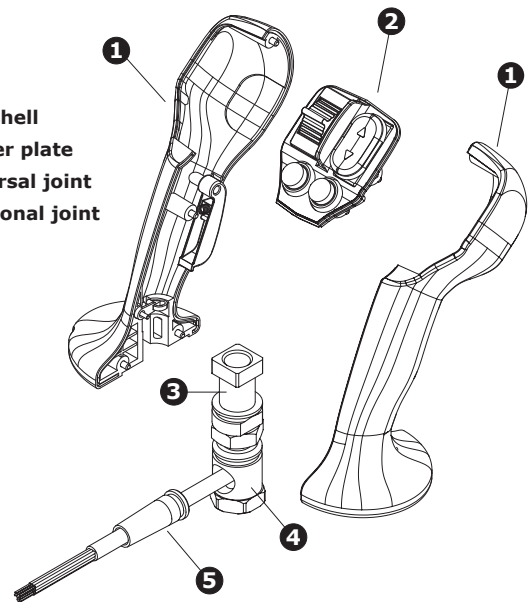
### Dimensions



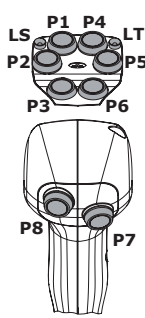
**Proportional roller output detail**



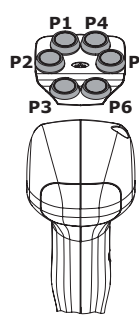
- 1) Half-shell
- 2) Holder plate
- 3) Universal joint
- 4) Additional joint
- 5) Cable



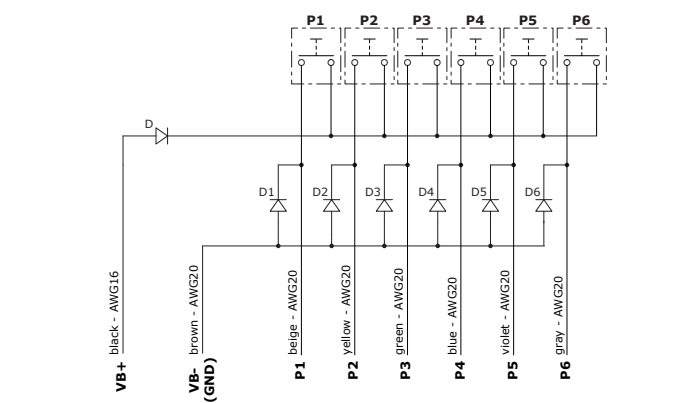
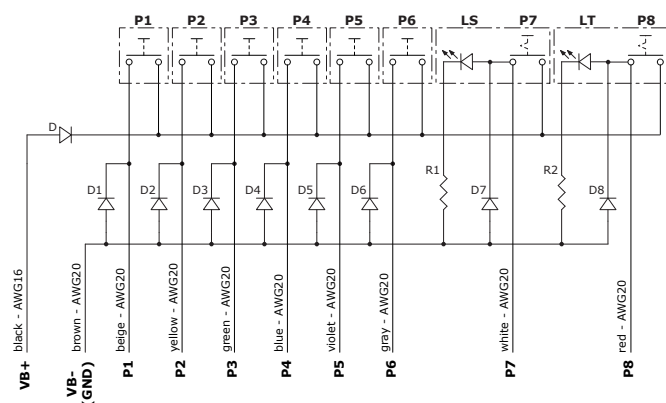
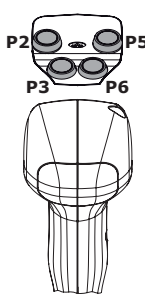
Without "dead man" trigger



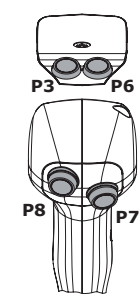
Code	<b>2IM8020007</b>
Description	PQC6002B9-1R1(T)D035-2R1(T)D035-3R1(T)D035-4R1(T)D035-5R1(T)D035-6R1(T)D035-7R3(A)D035-8R3(A)D035-SLR035-TLV035-12VDC
Holder plate	6 push-buttons with spring return (P1... P6), 2 LEDs (LS-LT)
Front zone	2 detent push-buttons (P7-P8)
Joint	Standard for SVM400-430 joystick



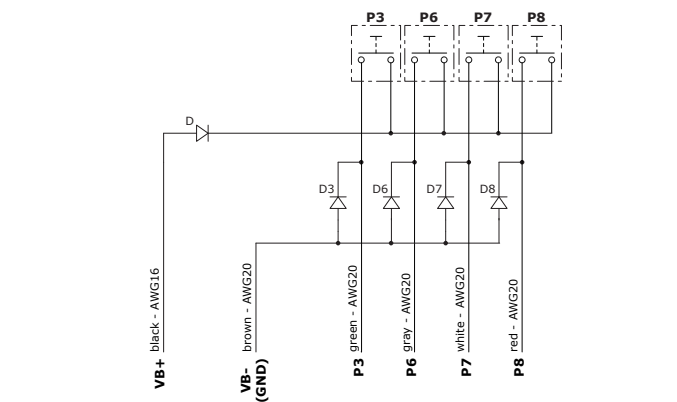
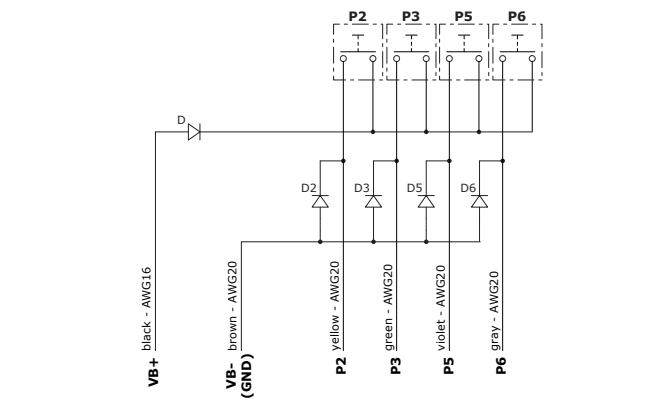
Code	<b>2IM8010032</b>
Description	PTB6000A9-1R1D035-2R1D035-3R1D035-4R1D035-5R1D035-6R1D035
Holder plate	6 push-buttons with spring return (P1... P6)
Front zone	-
Joint	Standard for SVM400-430 joystick

Code	<b>2IM8010033</b>
Description	PTB4000A9-2R1D035-3R1D035-5R1D035-6R1D035
Holder plate	4 push-buttons with spring return (P2-P3-P5-P6)
Front zone	-
Joint	Standard for SVM400-430 joystick



Code	<b>2IM8020008</b>
Description	PTC2000C9-3R1D035-6R1D035-7R1D035-8R1D035
Holder plate	2 push-buttons with spring return (P3-P6)
Front zone	2 push-buttons with spring return (P7-P8)
Joint	Standard for SVM400-430 joystick



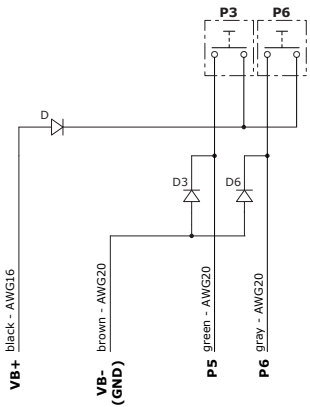
NOTE - For different joint see page 4.  
For different handle configurations, contact our Sales Dept.

### Configurations

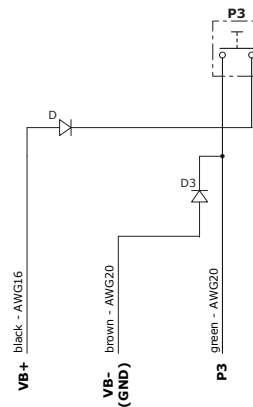
#### Without "dead man" trigger



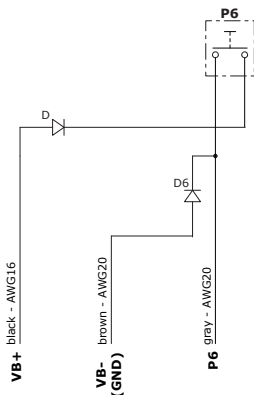
Code	<b>2IM8010034</b>
Description	PTB2000C9-3R1D035-6R1D035
Holder plate	2 push-buttons with spring return (P3-P6)
Front zone	-
Joint	Standard for SVM400-430 joystick



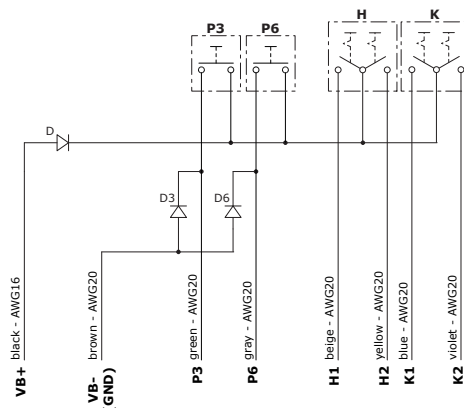
Code	<b>2IM8010035</b>
Description	PTB1000D9-3R1D035
Holder plate	1 push-button with spring return (P3)
Front zone	-
Joint	Standard for SVM400-430 joystick



Code	<b>2IM8010036</b>
Description	PTB1000A9-6R1D035
Holder plate	1 push-button with spring return (P6)
Front zone	-
Joint	Standard for SVM400-430 joystick



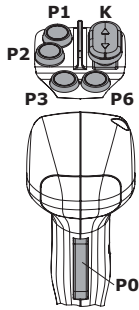
Code	<b>2IM8010037</b>
Description	PTB2020A9-3R1D035-6R1D035-HN6035-KN6035
Holder plate	2 push-buttons with spring return (P3-P6), 2 rocker switches with detent (H-K)
Front zone	-
Joint	Standard for SVM400-430 joystick



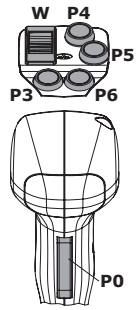
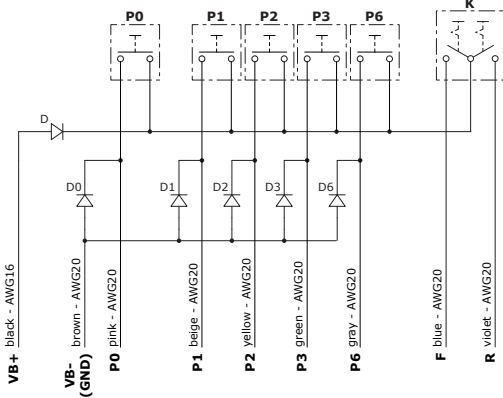
NOTE - For different joint see page 4.

For different handle configurations, contact our Sales Dept.

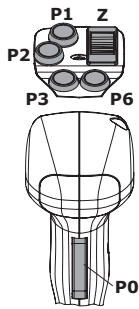
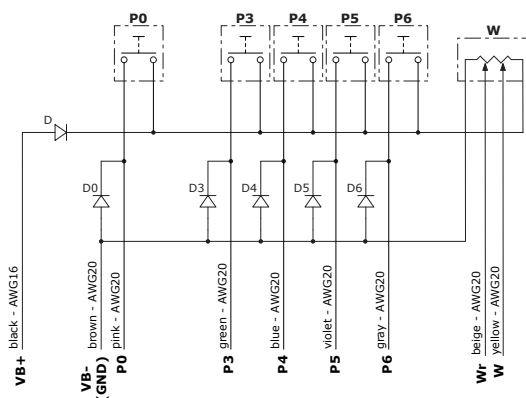
With "dead man" trigger



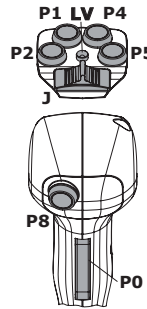
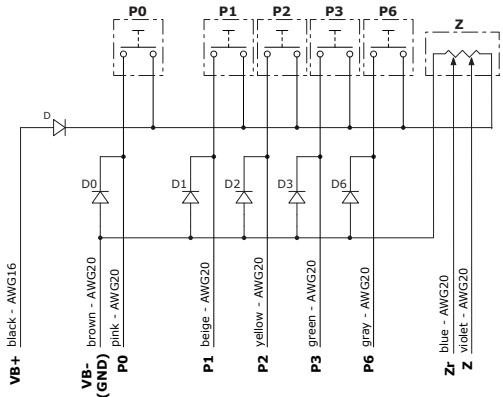
Code	<b>2IM8100002</b>
Description	PTA4010F9-0RD035-1R1D035-2R1D035-3R1D035-6R1D035-KRS035
Holder plate	4 push-buttons with spring return (P1-P2-3-P6), 1 FNR rocker switch with detent
Front zone	"Dead man" trigger (P0)
Joint	Standard for SVM400-430 joystick



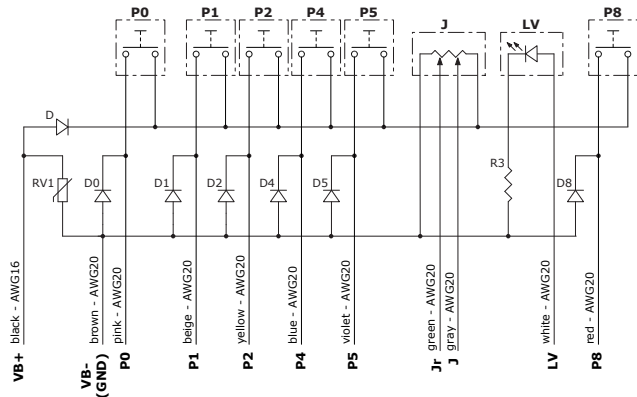
Code	<b>2IM8600007</b>
Description	PZTA4100D9-0RD035-3R1D035-4R1D035-5R1D035-6R1D035-WN130035
Holder plate	4 push-buttons with spring return (P3-P4-P5-P6), 1 proportional roller (W) with redundancy
Front zone	"Dead man" trigger (P0)
Joint	Standard for SVM400-430 joystick



Code	<b>2IM8600008</b>
Description	PZTA4100E9-0RD035-1R1D035-2R1D035-3R1D035-6R1D035-ZN130035
Holder plate	4 push-buttons with spring return (P1-P2-P3-P6), 1 proportional roller (Z) with redundancy
Front zone	"Dead man" trigger (P0)
Joint	Standard for SVM400-430 joystick



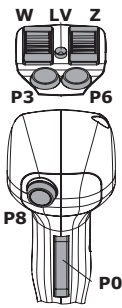
Code	<b>2IM86M0000</b>
Description	PZTM4101A9-0RD035-1R1D035-2R1D035-4R1D035-5R1D035-8R1D035-JN130035-VVL035-(12VDC)-(RV)
Holder plate	4 push-buttons with spring return (P1-P2-P4-P5), 1 proportional roller (J), 1 LED (LV)
Front zone	1 push-button with spring return (P8), "dead man" trigger (P0)
Joint	Standard for SVM400-430 joystick



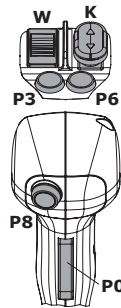
NOTE - For different joint see page 4.  
For different handle configurations, contact our Sales Dept.

### Configurations

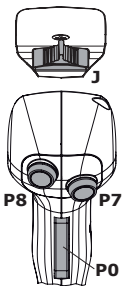
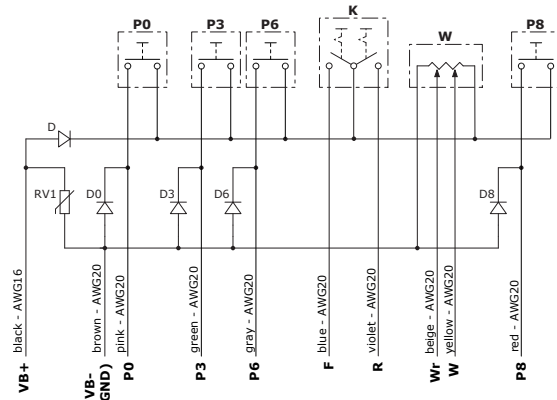
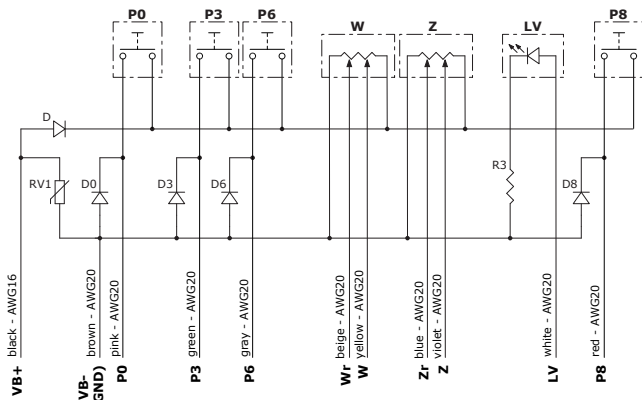
#### With "dead man" trigger



Code	<b>2IM86M0001</b>
Description	PZTM2200A9-ORD035-3R1D035-6R1D035-8R1D035-WN130035-ZN130035-VVL035-(12VDC)-(RV)
Hold plate	2 push-buttons with spring return (P3-P6), 2 proportional rollers (W-Z) with redundancy, 1 LED (LV)
Frontal zone	1 push-button with spring return (P8), "dead man" trigger (P0)
Joint	Standard for SVM400-430 joystick



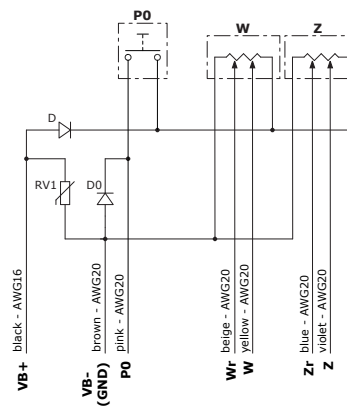
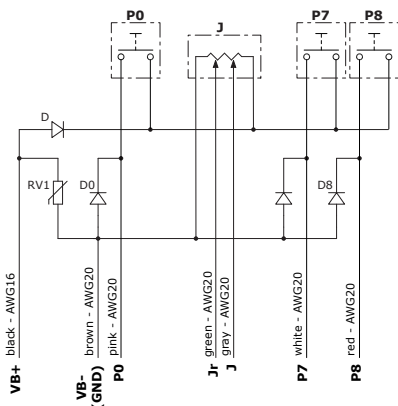
Code	<b>2IM86M0002</b>
Description	PZTM2110C9-ORD035-3R1D035-6R1D035-8R1D035-WN130035-KRS035
Hold plate	2 push-buttons with spring return (P3-P6), 1 proportional roller (W) with redundancy, 1 FNR rocker switch (K)
Frontal zone	1 push-button with spring return (P8), "dead man" trigger (P0)
Joint	Standard for SVM400-430 joystick



Code	<b>2IM8550004</b>
Description	PZTK0100F9-ORD035-7R1D035-8R1D035-JN130035-(RV)
Hold plate	1 proportional roller (J) with redundancy
Frontal zone	2 push-buttons with spring return (P7-P8), "dead man" trigger (P0)
Joint	Standard for SVM400-430 joystick



Code	<b>2IM8500007</b>
Description	PZA0200B9-ORD035-WN130035-ZN130035-(RV)
Hold plate	2 proportional rollers (W-Z) with redundancy
Frontal zone	"dead man" trigger (P0)
Joint	Standard for SVM400-430 joystick



NOTE - For different joint see page 4.  
For different handle configurations, contact our Sales Dept.





## H series handle

- Ergonomic design
- Ergonomic handle made of thermoplastic material
- Available with different proportional and ON/OFF functions
- Available with or without "dead man" trigger

### General features

Shell and plate material	Nylon®
IP weather protection (mounted)	IP44
Ambient temperature	from -20°C to 60°C / from -4°F to 140°F
UV resistance	according to IEC68-2-5, S test C procedure

### Electric device features

#### H type ON/OFF push button

Version	spring return
Contact type	NA
Current rating	2 A resistive load @ 12 VDC
Mechanical life (nr. of operations)	10 <sup>6</sup>
Electric life (nr. of operations)	200x10 <sup>3</sup>
Operating force	0.8 N
Weather protection	IP50



#### HT type ON/OFF push button

Version	spring return
Contact type	NA
Current rating	2 A resistive load @ 12 VDC
Mechanical life (nr. of operations)	10 <sup>6</sup>
Electric life (nr. of operations)	200x10 <sup>3</sup>
Operating force	7.5 N
Weather protection	IP64



#### H type rocker switch

Version	spring return
Contact type	(on)/off/(on)
Current rating	2 A resistive load @ 12 VDC
Mechanical life (nr. of operations)	200x10 <sup>5</sup>
Weather protection	IP44



#### "Dead man" trigger

Version	spring return
Contact type	NA
Current rating	2 A resistive load @ 12 VDC
Mechanical life (nr. of operations)	10 <sup>6</sup>
Electric life (nr. of operations)	200x10 <sup>3</sup>
Operating force	0.8 N
Weather protection	IP50



#### Proportional roller

Supply	8-32 VDC
Max. current consumption	< 24 mA
Max. output current	1 mA
Output signal (range)	0.5 - 4.5 V
Output signal (central position)	2.5V
Signal tolerance (central position and stroke end)	±100 mV
Minimum load	10 Ω
Actuator deflection angle	± 35° (±1°)
Mechanical life (nr. of operations)	10 <sup>6</sup>
Operating force	2 N
Mechanical vibration	IEC 68-2
Mechanical shock	EN 60068-2-29 (pulse 400m/s <sup>2</sup> x 6 ms, 100 times)
Weather protection	IP67-IP69K
EMC compatibility	ISO 13766 - ISO 14982



#### Rocker switch

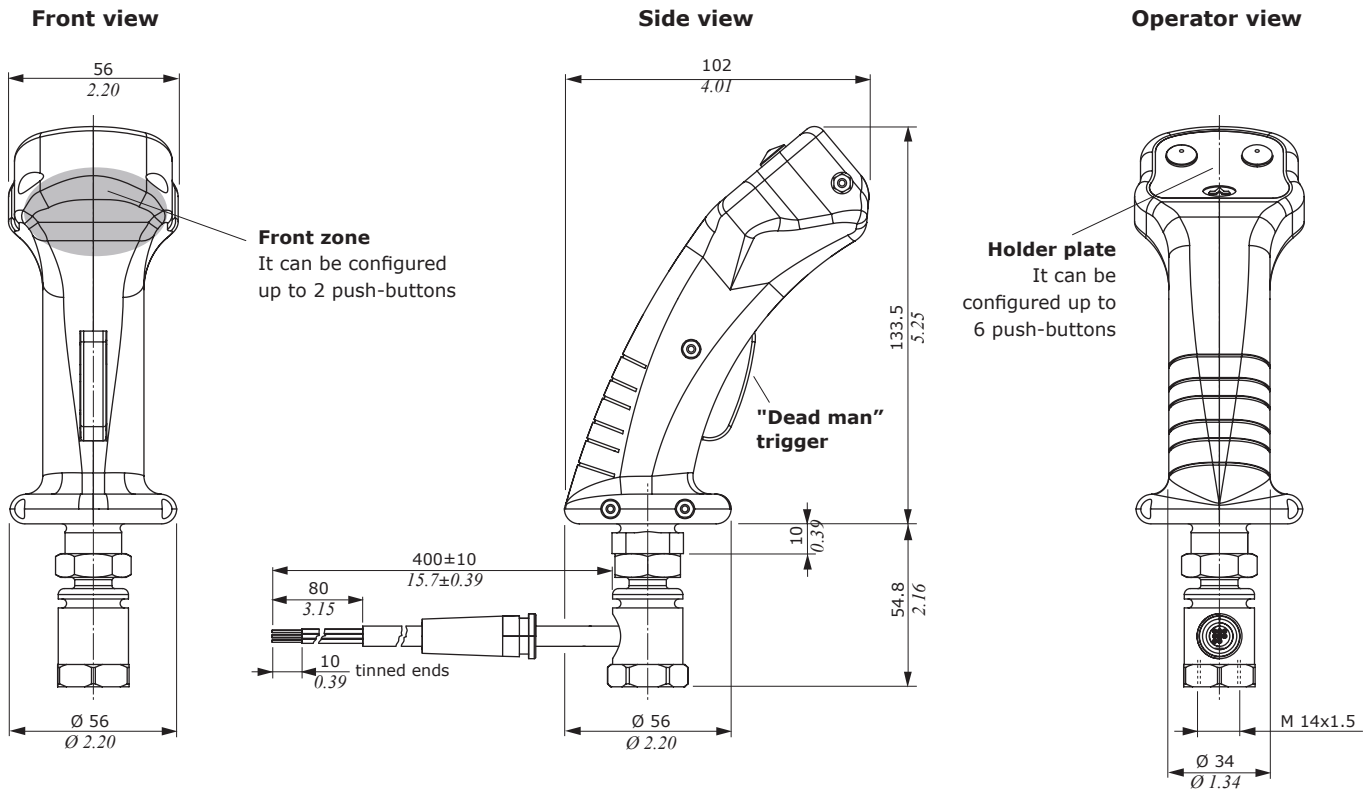
Version	with detent
Contact type	on/off
Current rating	2 A resistive load @ 12 VDC
Mechanical life (nr. of operations)	10 <sup>5</sup>
Weather protection	IP44



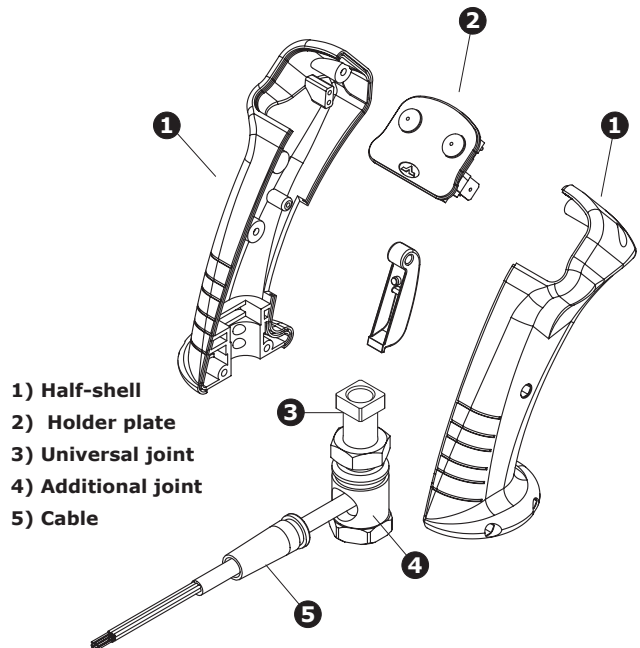
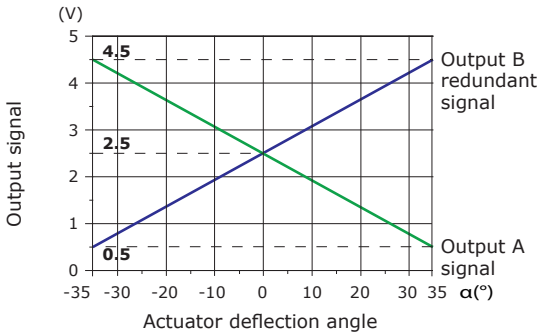
#### Cables

Conductor material	copper with tinned ends
Nr. of conductors	up to 12
Conductor section	from AWG16 to AWG20
Insulating material	PVC
Protective covering material	fireproof polyurethane

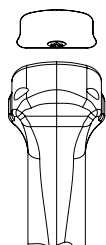
## Dimensions



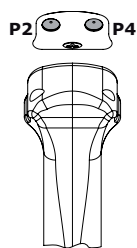
**Proportional roller output detail**



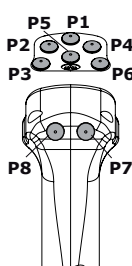
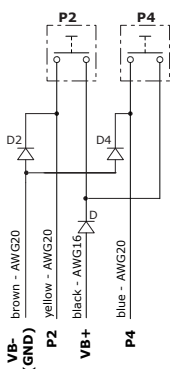
### Without "dead man" trigger



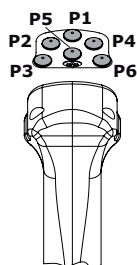
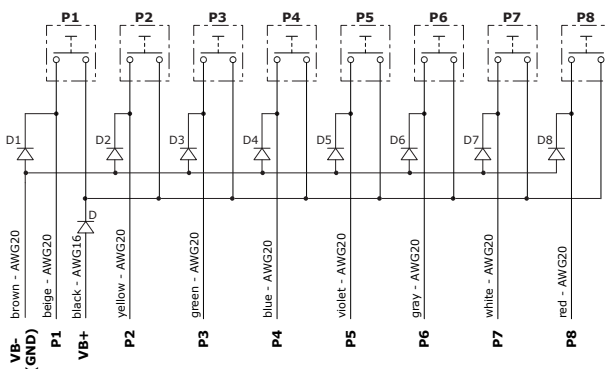
Code	<b>2IM4000213</b>
Description	HB009
Holder plate	-
Frontal zone	-
Joint	Standard for SVM400



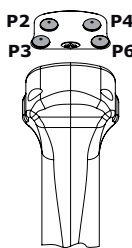
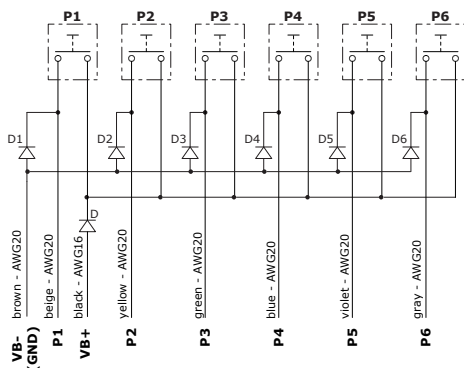
Code	<b>2IM4000235</b>
Description	HB029-2RD040-4RD040
Holder plate	2 push-buttons with spring return (P2-P4)
Frontal zone	-
Joint	Standard for SVM400-430 joystick



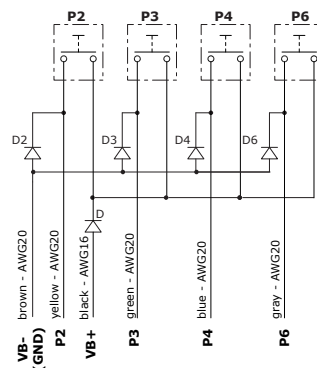
Code	<b>2IM4200017</b>
Description	HC069-1RD040-2RD040-3RD040-4RD040-5RD040-6RD040-7RD040-8RD040
Holder plate	6 push-buttons with spring return (P1...P6)
Frontal zone	2 push-buttons with spring return (P7-P8)
Joint	Standard for SVM400-430 joystick



Code	<b>2IM4000201</b>
Description	HB069-1RD040-2RD040-3RD040-4RD040-5RD040-6RD040
Holder plate	6 push-buttons with spring return (P1...P6)
Frontal zone	-
Joint	Standard for SVM400-430 joystick



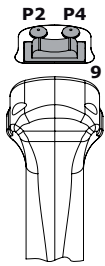
Code	<b>2IM4000221</b>
Description	HB049-2RD040-3RD040-4RD040-6RD040
Holder plate	4 push-buttons with spring return (P2-P3-P4-P6)
Frontal zone	-
Joint	Standard for SVM400-430 joystick



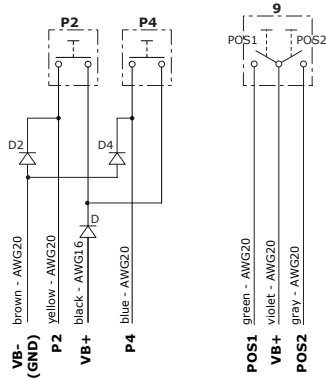
NOTE - For different joint see page 4.  
For different handle configurations, contact our Sales Dept.

### Configurations

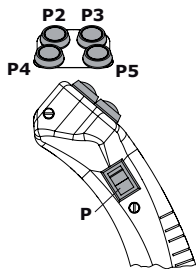
#### Without "dead man" trigger



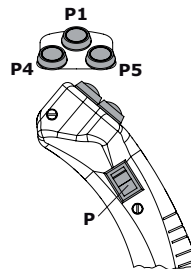
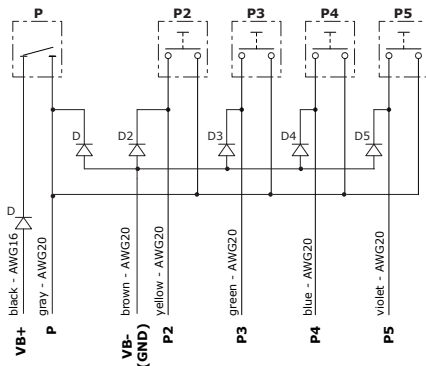
Code	<b>2IM4000145</b>
Description	HB529-2RD040-4RD040-9N040-CS
Holder plate	2 push-buttons with spring return (P1-P2), 1 rocker switch with spring return (9)
Frontal zone	-
Joint	Standard for SVM400-430 joystick



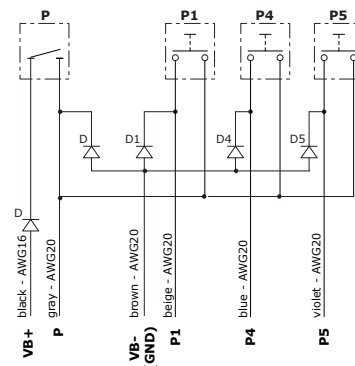
#### With ON/OFF switch



Code	<b>2IM4700138</b>
Description	HTPB049-PND040-2R1D040-3R1D040-4R1D040-5R1D040
Holder plate	4 push-buttons with spring return (P2-P3-P4-P5)
Frontal zone	ON/OFF switch (P)
Joint	Standard for SVM400-430 joystick



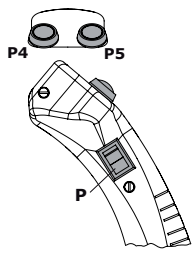
Code	<b>2IM4700139</b>
Description	HTPB039-PND040-1R1D040-4R1D040-5R1D040
Holder plate	3 push-buttons with spring return (P1-P4-P5)
Frontal zone	ON/OFF switch (P)
Joint	Standard for SVM400-430 joystick



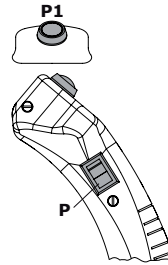
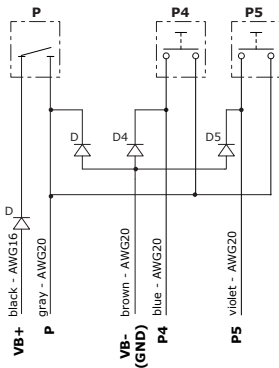
NOTE - For different joint see page 4.

For different handle configurations, contact our Sales Dept.

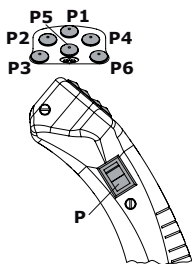
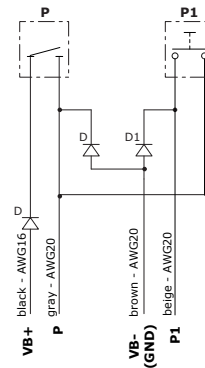
### With ON/OFF switch



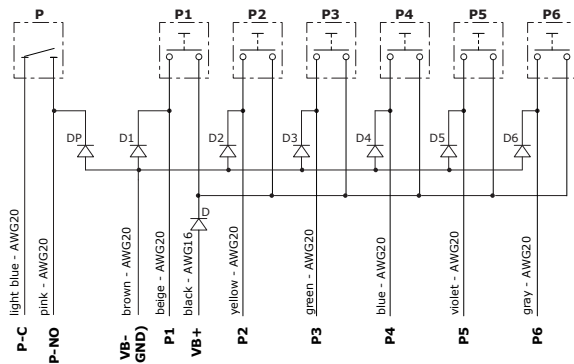
Code	<b>2IM4700140</b>
Description	HTPB029-PN040-4R1D040-5R1D040
Holder plate	2 push-buttons with spring return (P4-P6)
Frontal zone	ON/OFF switch (P)
Joint	Standard for SVM400-430 joystick



Code	<b>2IM4700141</b>
Description	HTPB019-PN040-1R2D040
Holder plate	1 push-button with spring return (P1)
Frontal zone	ON/OFF switch (P)
Joint	Standard for SVM400-430 joystick



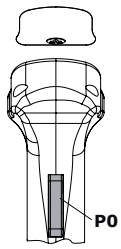
Code	<b>2IM4000309</b>
Description	HJ069-PN040-1RD040-2RD040-3RD040-4RD040-5RD040-6RD040
Holder plate	6 push-buttons with spring return (P1...P6)
Frontal zone	ON/OFF switch (P)
Joint	Standard for SVM400-430 joystick



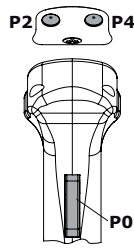
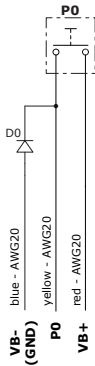
NOTE - For different joint see page 4.  
For different handle configurations, contact our Sales Dept.

### Configurations

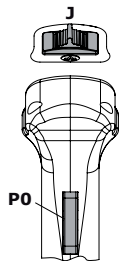
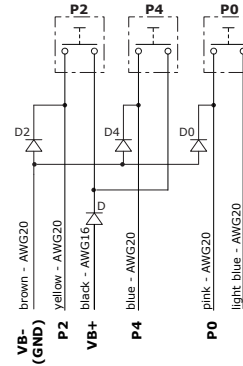
#### With "dead man" trigger



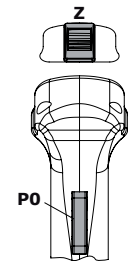
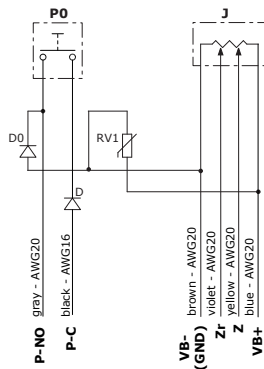
Code	<b>2IM4100075</b>
Description	HA009-0RD040
Holder plate	-
Frontal zone	"Dead man" trigger (P0)
Joint	Standard for SVM400-430 joystick



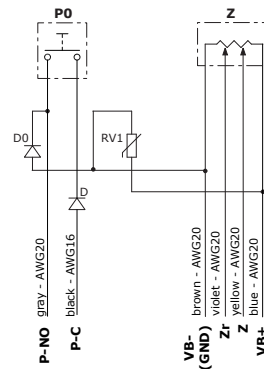
Code	<b>2IM4100109</b>
Description	HA029-0RD040-2RD040-4RD040
Holder plate	2 push-buttons with spring return (P2-P4)
Frontal zone	"Dead man" trigger (P0)
Joint	Standard for SVM400-430 joystick



Code	<b>2IM4800022</b>
Description	HZA9-0RD040-JN130040-(RV)
Holder plate	Proportional roller (J) with redundancy
Frontal zone	"Dead man" trigger (P0)
Joint	Standard for SVM400-430 joystick



Code	<b>2IM4800023</b>
Description	HZA9-0RD040-ZN130040-(RV)
Holder plate	Proportional roller (Z) with redundancy
Frontal zone	"Dead man" trigger (P0)
Joint	Standard for SVM400-430 joystick



NOTE - For different joint see page 4.  
For different handle configurations, contact our Sales Dept.





## S series handle


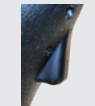
- Ergonomic design
- Rubber coating
- Robust construction, reliability and weather resistance
- Proportional switch option rocker

### General features


Covering material	Thermoplastic elastomer
Core material	Polyamide 6.6
IP weather protection (assembled)	IP67
Ambient temperature	from -20°C to 50°C / from -4°F to 122°F
UV resistance	according to IEC68-2-5, S test C procedure

### Electric devices features


#### Trigger and clacson push-button

Version	spring return	
Contact type	NO	
Current rating	7 A resistive	
	4 A inductive @ 28 VDC	
Mechanical life (nr. of operations)	10 <sup>6</sup>	
Electric life (nr. of operations)	5x10 <sup>5</sup>	
Operating force	0.8 N	
Weather protection	IP50	


#### Proportional roller with ratiometric signal

Supply	12VDC	
Output signal (range)	3.5 - 8.5 V	
Output signal (central position)	6V	
Signal tolerance (central position and stroke end)	±1 %	
Nominal resistance	5 KΩ	
Actuator deflection angle	160° (±5°)	
Mechanical life (nr. of operations)	10 <sup>7</sup>	

#### ON/OFF push-button

Version	Spring return	
Contact type	NO	
Current rating	5 A resistive	
	3 A inductive @ 28 VDC	
Mechanical life (nr. of operations)	10 <sup>6</sup>	
Electric life (nr. of operations)	25x10 <sup>3</sup>	
Weather protection	IP64	

#### Proportional roller (ARW)

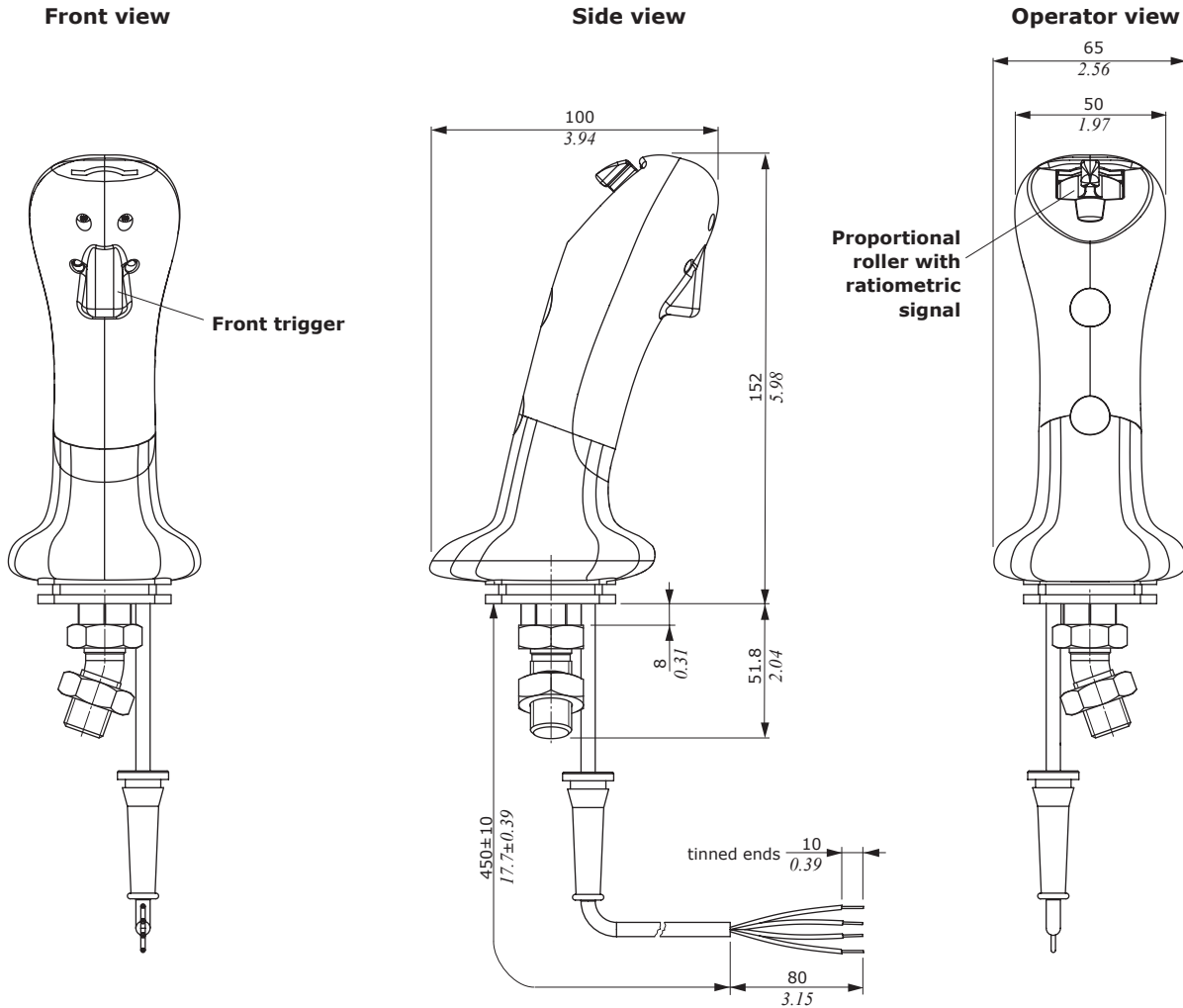
Supply	8-32 VDC	
Max. current consumption	< 24 mA	
Max. output current	1 mA	
Output signal (range)	0.5 - 4.5 V	
Output signal (central position)	2.5V	
Signal tolerance (central position and stroke end)	±100 mV	
Minimum load	10 Ω	
Actuator deflection angle	± 35° (±1°)	
Mechanical life (nr. of operations)	10 <sup>6</sup>	
Operating force	2 N	
Mechanical vibration	IEC 68-2	
Mechanical shock	EN 60068-2-29 (pulse 400m/s <sup>2</sup> x 6 ms, 100 times)	
Weather protection	IP67-IP69K	
EMC	ISO 13766 - ISO 14982	

#### Cables

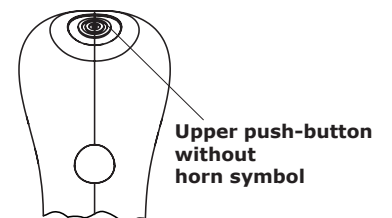
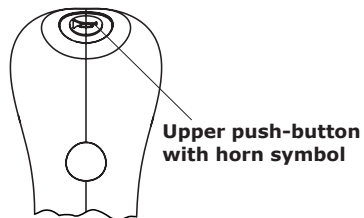
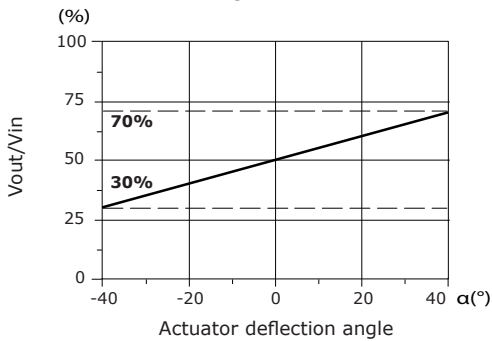
Conductor material	copper with tinned ends
Conductor section	AWG18
Insulating material	PVC
Protective covering material	PVC

## Dimensions

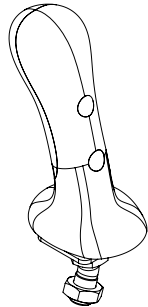
### With proportional roller with ratiometric signal



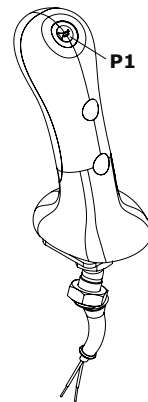
**Proportional roller output detail**



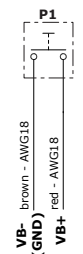
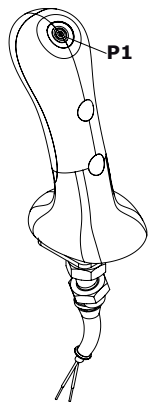
### With proportional roller with ratiometric signal



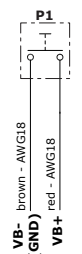
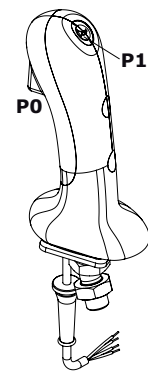
Code	<b>2IM500000</b>
Description	S007
Configuration	Without control devices
Joint	Sloping 19° left for SVM400-430 joystick



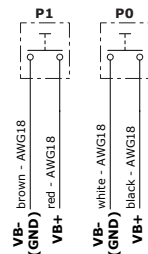
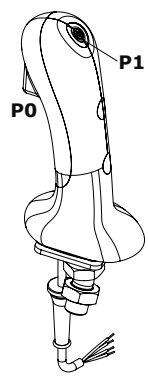
Code	<b>2IM5100002</b>
Description	S107-045
Configuration	With upper push-button with horn symbol (P1)
Joint	Sloping 19° left for SVM400-430 joystick

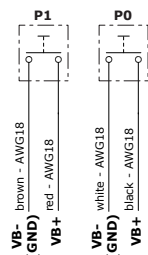
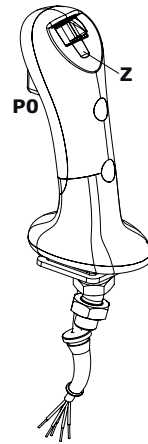
Code	<b>2IM5120001</b>
Description	S10A8-045
Configuration	With upper push-button without horn symbol (P1)
Joint	Sloping 19° right for SVM400-430 joystick

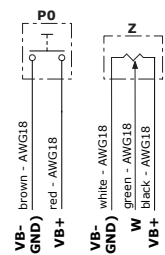
Code	<b>2IM5210002</b>
Description	S218-045
Configuration	With upper push-button with horn symbol (P1) and front trigger (P0)
Joint	Sloping 19° right for SVM400-430 joystick

Code	<b>2IM5210003</b>
Description	S21A7-045
Configuration	With upper push-button without horn symbol (P1) and front trigger (P0)
Joint	Sloping 19° left for SVM400-430 joystick

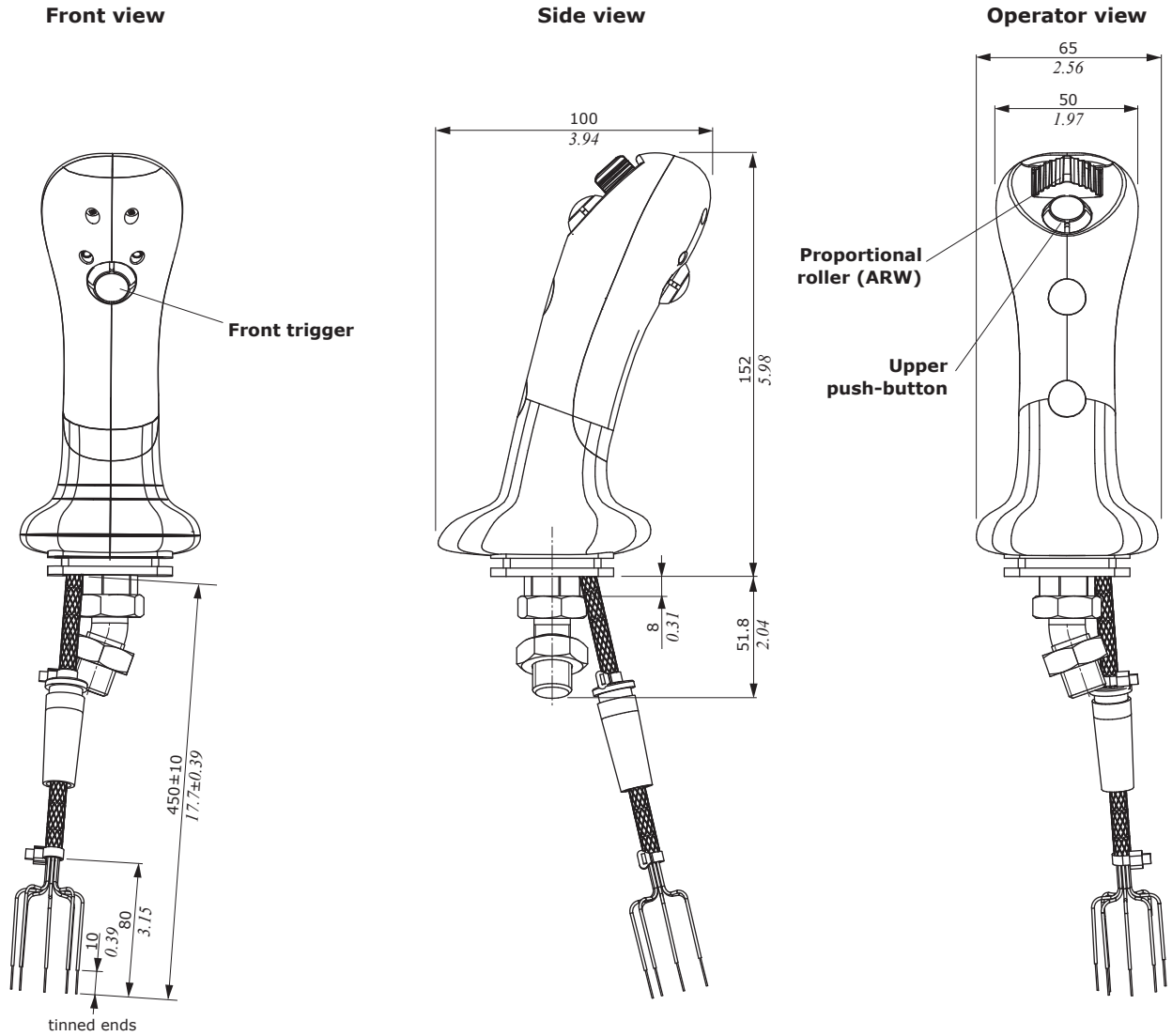
Code	<b>2IM5110003</b>
Description	S117-045
Configuration	With proportional roller (Z) and front trigger (P0)
Joint	Sloping 19° left for SVM400-430 joystick



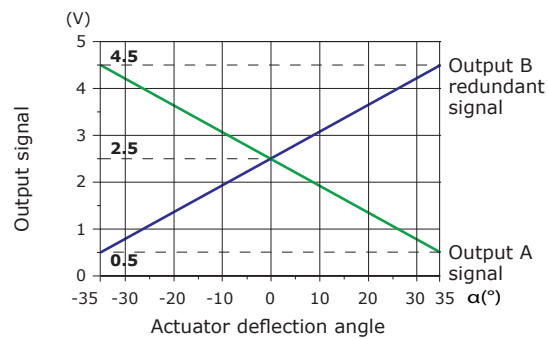
NOTE - For different joint see page 4.  
For different handle configurations, contact our Sales Dept.

## Dimensions

### With ARW proportional roller



**Proportional roller output detail**



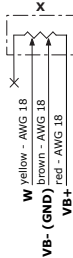
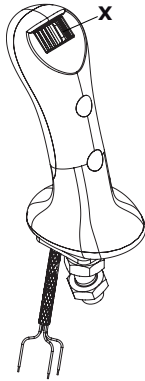
With ARW proportional roller

Code **2IM530000**

Description SZ8-XG122045

Configuration With ARW proportional roller (X)

Joint Sloping 19° right for SVM400-430 joystick

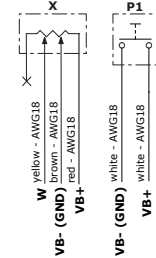
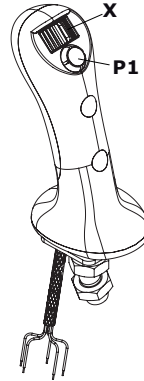


Code **2IM532000**

Description SZTB8-1G4045-XG122045

Configuration With ARW proportional roller (X) and thumb type upper push-button (P1)

Joint Sloping 19° right for SVM400-430 joystick

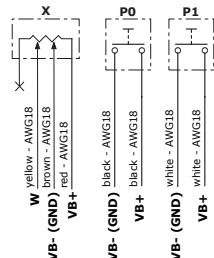
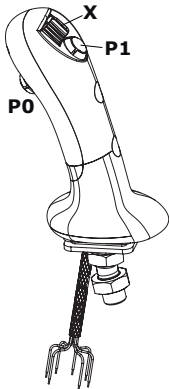


Code **2IM5330003**

Description SZTC8-0G4045-1G4045-XG122045

Configuration With ARW prop.roller (X), thumb type upper push-button (P1) and front trigger (P0)

Joint Sloping 19° right for SVM400-430 joystick

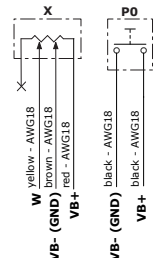
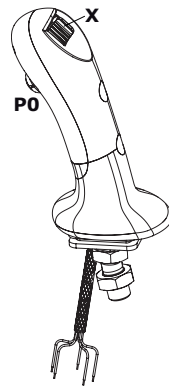


Code **2IM5310003**

Description SZTA8-0G4045-XG122045

Configuration With ARW proportional roller (X) and front trigger (P0)

Joint Sloping 19° right for SVM400-430 joystick

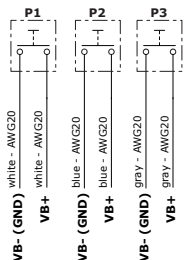
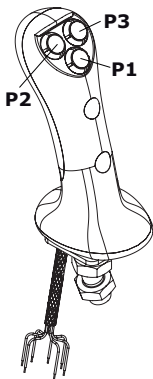


Code **2IM544000**

Description STB38-1RB045-2RB045-3RB045

Configuration With 3 upper push-buttons (P1-P2-P3)

Joint Sloping 19° right for SVM400-430 joystick

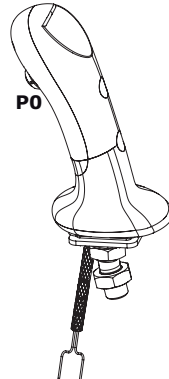


Code **2IM5410001**

Description STA8-0G4045

Configuration With front trigger (P0)

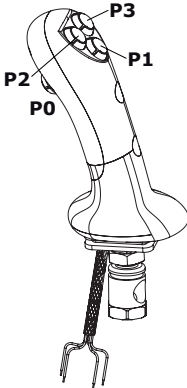
Joint Sloping 19° right for SVM400-430 joystick



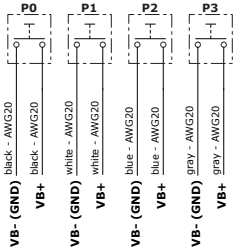
NOTE - For different joint see page 4.  
For different handle configurations, contact our Sales Dept.

## Configurations

### With ARW proportional roller



Code	<b>2IM5430000</b>
Description	STC39-0RB045-1RB045-2RB045-3RB045
Configuration	With 3 upper push-buttons and front trigger (P1-P2-P3) and front trigger (P0)
Joint	Standard for SVM400 joystick



NOTE - For different joint see page 4.  
 For different handle configurations, contact our Sales Dept.





## V series handle

- Ergonomic design with elastomericated rubber
- Available with ON/OFF push-button

### General features

Covering material	elastomericated rubber
Core material	Nylon®
IP weather protection (assembled)	IP44
Ambient temperature	from -20°C to 60°C / from -4°F to 140°F

### Electric devices features

#### ON/OFF push-button

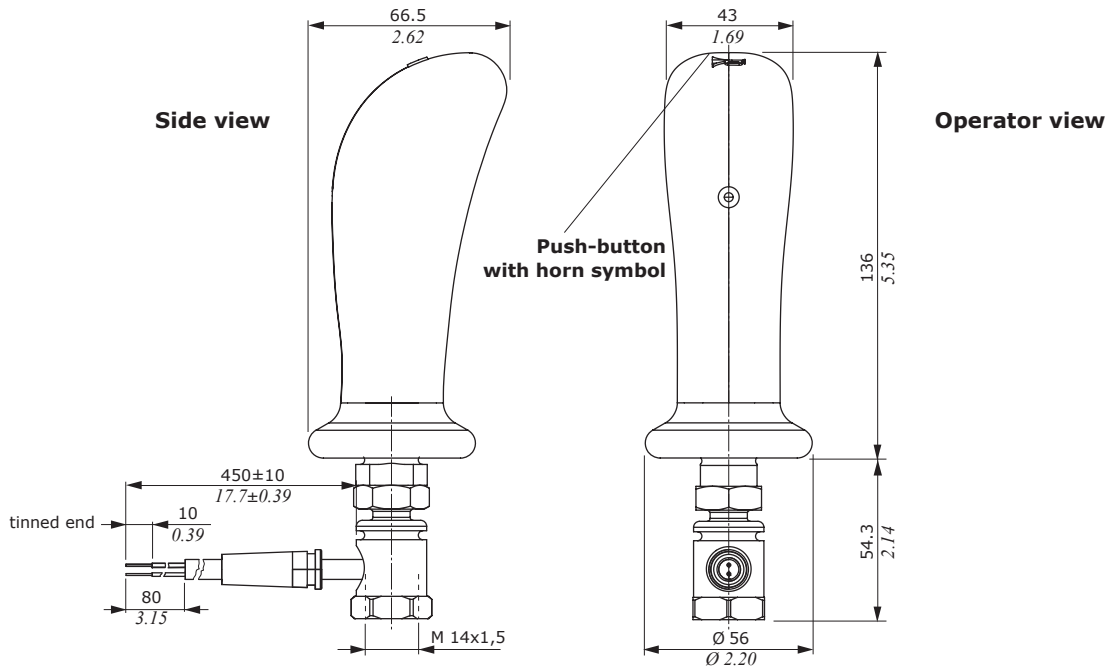
Version	spring return
Contact type	NO
Current rating	4 A resistive load @ 24 VDC
Electric life (nr. of operations)	10 <sup>4</sup>
Weather protection	IP44



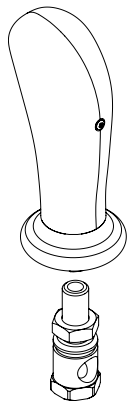
#### Cables

Conductor material	Copper with tinned ends
Nr. of conductors	from 2 to 3
Conductor section	AWG20
Insulating material	PVC
Protective covering material	polyolefin

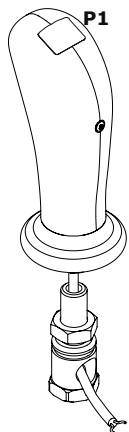
### Dimensions



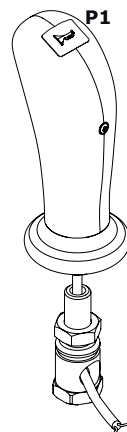
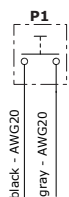
### Configurations



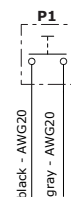
Code	<b>5IMP030011</b>
Description	V009
Configuration	Without push-button
Joint	Standard for SVM400-430 joystick



Code	<b>5IMP032012</b>
Description	V209-045
Configuration	Push-button with spring return without horn symbol (P1)
Joint	Standard for SVM400-430 joystick



Code	<b>5IMP031160</b>
Description	V109-045
Configuration	Push button with spring return with horn symbol (P1)
Joint	Standard for SVM400-430 joystick



NOTE - For different joint see page 4.

For different handle configurations, contact our Sales Dept.



## Handle Series J

- Cylindrical Ø 30 mm / Ø 1.18 in Nylon®
- ON/OFF control with push button or rocker switch

### General features

Cap material	Neoprene
Body material	Nylon®
IP weather protection (assembled)	IP44
Ambient temperature	from -20°C to 60°C / from -4°F to 140°F

### Electric devices features

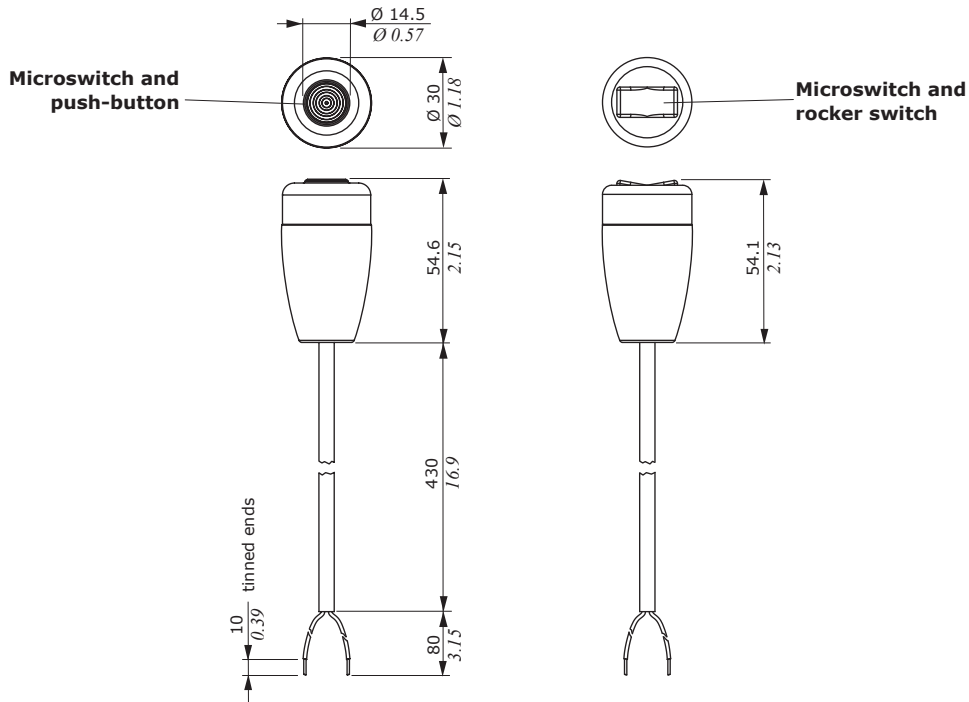
#### ON/OFF push-button

Version	Spring return
Contact type	NO
Current rating	6 A resistive load - @ 30 VDC
Electric life (nr. of operations)	5x10 <sup>4</sup>

#### Cables

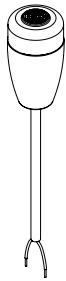
Conductor material	Copper with tinned ends
Conductor section	AWG20
Insulating material	PVC
Protective covering material	PVC

## Dimensions



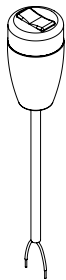
## Configurations

### Push-button control



Code	<b>5IMP110000</b>
Description	JJI/C
Configuration	Push-button control
Scheme	

### Rocker switch control



Code	<b>5IMP210000</b>	<b>5IMP310000</b>	<b>5IMP410000</b>	<b>5IMP510000</b>	<b>5IMP610000</b>
Description	JLI/C	JMI/C	JNI/C	JPI/C	JQI/C
Configuration	ON/OFF detent	ON/OFF/ON detent	(OFF)/ON Spring return	(ON)/OFF/ON Spring return in one direction and detent in the other direction	(ON)/OFF/(ON) Spring return
Scheme					

NOTE - For different joint see page 4.

For different handle configurations, contact our Sales Dept.



## Handle 10 series

- Cylindrical Ø 39 mm / Ø 1.53 in in Nylon®
- ON/OFF control with push button or rocker switch

### General features

Cap material	Neoprene
Body material	Nylon®
IP weather protection (assembled)	IP44
Ambient temperature	from -20°C to 60°C / from -4°F to 140°F

### Electric devices features

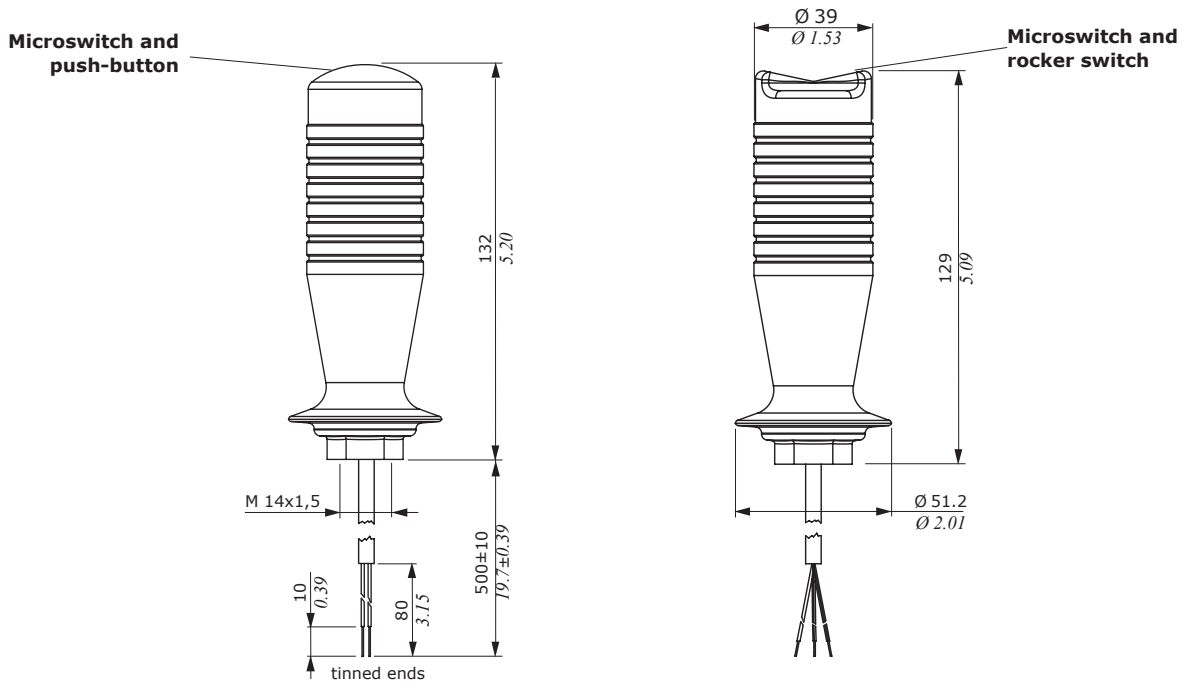
#### ON/OFF push-button

Version	spring return
Contact type	NA
Current rating	6 A resistive load 4 A inductive load @ 30 VDC
Mechanical life (nr. of operations)	3x10 <sup>6</sup>
Electric life (nr. of operations)	10 <sup>5</sup>
Weather protection	IP54

#### Cables

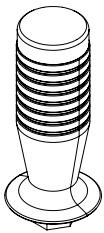
Conductor material	Copper with tinned ends
Conductor section	AWG20
Insulating material	PVC
Protective covering material	PVC

### Dimensions



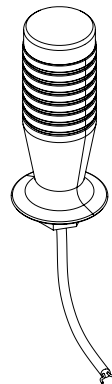
### Configurations

#### No push-button control



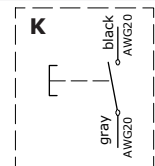
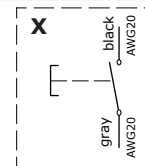
Code	5IMP100000
Description	WI
Configuration	Senza pulsante

#### Push-button control

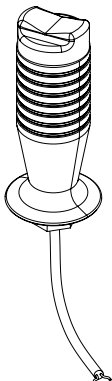


Code	5IMP200000	5IMP500000
Description	XI/C	KI/C
Configuration	Tipo (ON)/OFF	Tipo protetto (ON)/OFF

Scheme

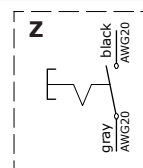
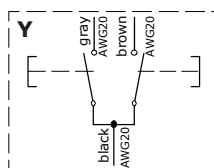
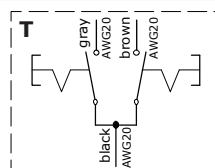


#### Rocker switch control



Code	5IMP600000	5IMP400000	5IMP300000
Description	TI/C	YI/C	ZI/C
Configuration	ON/OFF/ON type	(ON)/OFF/(ON) type	ON/OFF type

Scheme



NOTE - For different joint see page 4.

For different handle configurations, contact our Sales Dept.



## Handlevers

- Lengths from 120 to 400 mm / *from 4.72 to 15.75 in* with thread M8, M10, M12
- Available with different models of handles

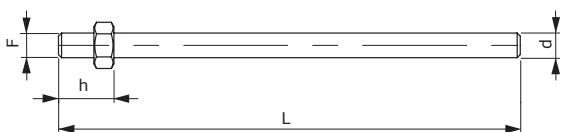
### General features

Rod material	zinc-coated steel
Knob material	thermoplastic or thermosetting resins
Ambient temperature	from -20°C to 60°C / <i>from -4°F to 140°F</i>

NOTE - For different conditions, please contact our Sales Dept

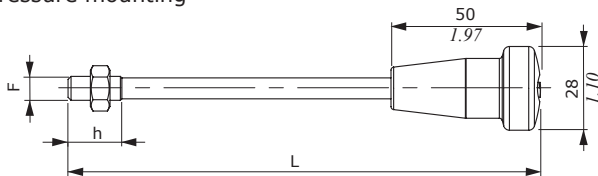
## Without microswitches

### AL00: without handles



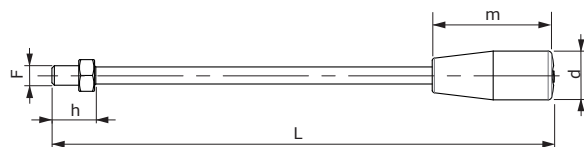
F	h (thread)	L	d	Code
<b>M8</b>	19-0.75	120-4.72	8-0.31	170011214
		150-5.91		170011215
		200-7.87		170011220
		250-9.84		170011225
<b>M10</b>	24-0.94	150-5.91	10-0.39	170012215
		200-7.87		170012220
		250-9.84		170012224
		300-11.8		170012230

### AL02: black moulded thermoplastic resin knob with pressure mounting



F	h (thread)	L	Code
<b>M8</b>	18-0.71	159-6.26	170011216
<b>M10</b>	22-0.87	159-6.26	170012016
		209-8.23	170012022
<b>M12</b>	28-1.10	219-8.62	170013021

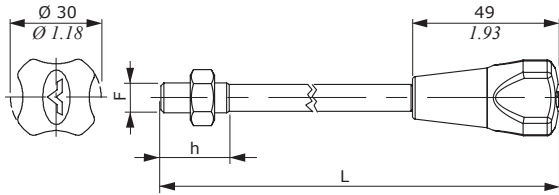
### AL01: black cylindrical thermoplastic resin knob with pressure mounting



F	h (thread)	L	d	m	Code
<b>M8</b>	19-0.75	18-0.71	20-0.98	50-1.97	170011012
		18-0.71			170011015
		18-0.71			170011020
		206-8.11			170011226
<b>M10</b>	22-0.87	156-6.14	22-0.87	60-2.36	170012015
		206-5.00			170012020
		256-10.1			170012025
		306-12.0			170012030
		356-14.0			170012035
		406-16.0			170012040
		206-8.11			170013020
		256-10.1			170013025
<b>M12</b>	28-1.10	306-12.0	26-1.02	72-2.83	170013030
		356-14.0			170013035
		406-16.0			170013040
<b>M16</b>	40-1.57	355-1.38	31-1.22	102-4.02	170015030
		405-15.9			170015035
		455-17.9			170015040

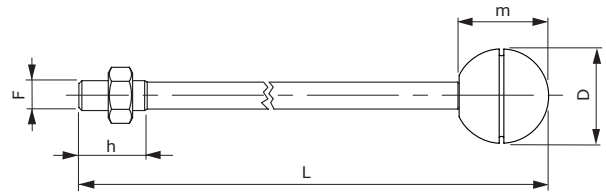
### Without microswitches

**AL03:** red moulded thermoplastic resin knob with pressure mounting



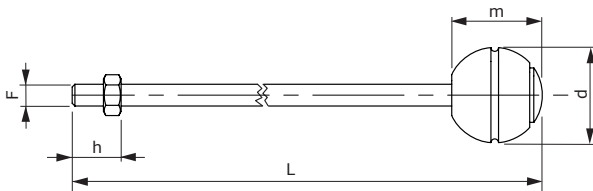
F	h (thread)	L	Code
M8	18-0.71	158-6.22	170011217
M10	22-0.87	158-6.22	170012017
		208-8.19	170012023

**AL04:** black spherical thermosetting resin knob with pressure mounting



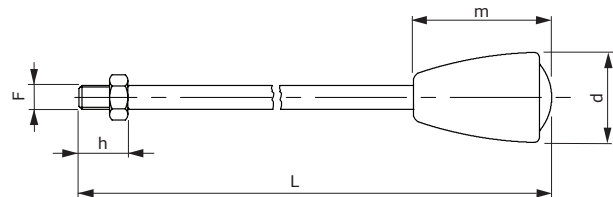
F	h (thread)	L	d	m	Code
M10	22-0.87	210-8.27	30-1.18	28-1.10	170012223
		260-10.2			170012226
M12	28-1.10	220-8.66	40-1.57	38.5-1.52	170013019
		270-10.6			170013027

**AL06:** black spherical thermosetting resin knob with portlight and pressure mounting



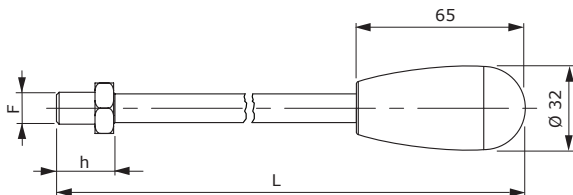
F	h (thread)	L	d	m	Code
M8	19-0.75	220-8.66	35-1.38	33.5-1.32	170011255
M10	22-0.87	220-8.66	40-1.57	38.5-1.52	170012221

**AL07:** black ogival thermosetting resin knob with portlight and pressure mounting



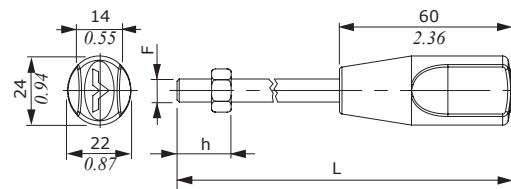
F	h (thread)	L	d	m	Code
M8	19-0.75	163-6.42	32-1.26	45-1.77	170011219
		213-8.39			170011222
M10	22-0.87	224-8.82	32-1.26	49-1.93	170012222

**AL08:** Black ogival thermosetting resin knob with M10 thread mounting



F	h (thread)	L	Code
M12	22-0.87	160-6.30	170013115
		210-8.27	170013120
		260-10.2	170013125
		310-12.2	170013130
		361-14.2	170013135

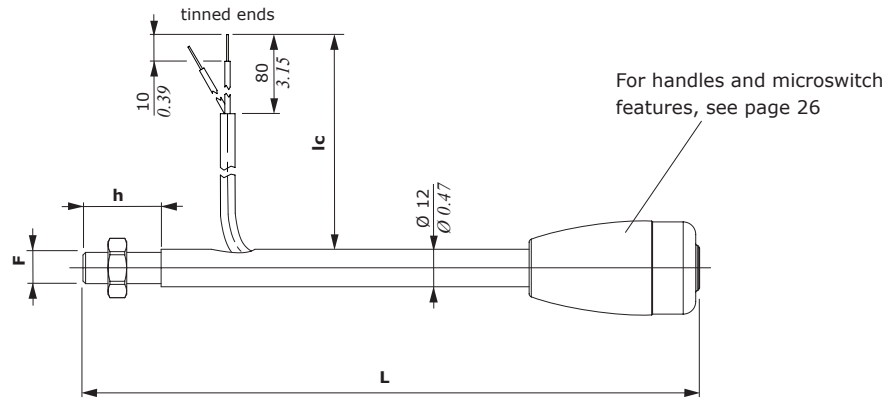
**AL11:** black thermoplastic resin knob, injection molded on rod



F	h (thread)	L	Code
M8	19-0.75	162-6.38	170408150
		212-8.35	170408200
		24-0.94	170408250
M10	24-0.94	165-6.50	170410150
		215-8.46	170410200
		265-10.4	170410250



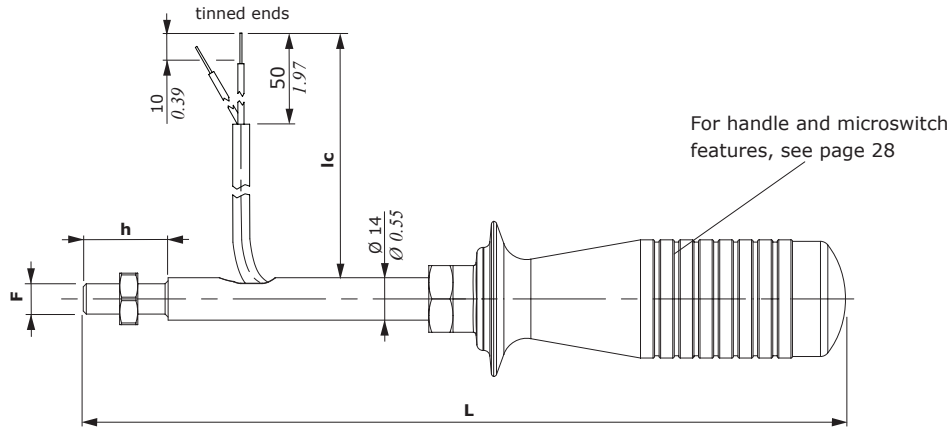
With microswitch and J series handle



Type	Knob (page 32)	h (thread)	F=M10			F=M12			
			L	lc	Code	h (thread)	L	lc	Code
AL24	type JJ	25-0.98	150-5.91	480-18.9	1702J2415	25-0.98	200-7.87	430-16.9	1702J3420
			200-7.87	430-16.9	1702J2420		250-9.84	380-15.0	1702J3425
AL25	type JL	25-0.98	150-5.91	480-18.9	1702L2415	25-0.98	200-7.87	430-16.9	1702L3420
			200-7.87	430-16.9	1702L2420		250-9.84	380-15.0	1702L3425
AL26	type JM	25-0.98	150-5.91	480-18.9	1702M2415	25-0.98	200-7.87	430-16.9	1702M3420
			200-7.87	430-16.9	1702M2420		250-9.84	380-15.0	1702M3425
AL27	type JN	25-0.98	150-5.91	480-18.9	1702N2415	25-0.98	200-7.87	430-16.9	1702N3429
			200-7.87	430-16.9	1702N2420		250-9.84	380-15.0	1702N3425
AL28	type JP	25-0.98	150-5.91	480-18.9	1702P2415	25-0.98	200-7.87	430-16.9	1702P3420
			200-7.87	430-16.9	1702P2420		250-9.84	380-15.0	1702P3425
AL29	type JQ	25-0.98	150-5.91	480-18.9	1702Q2415	25-0.98	200-7.87	430-16.9	1702Q3420
			200-7.87	430-16.9	1702Q2420		250-9.84	380-15.0	1702Q3425

NOTE - For uncoded configurations or cables with no standard length, contact our Sales Dept.

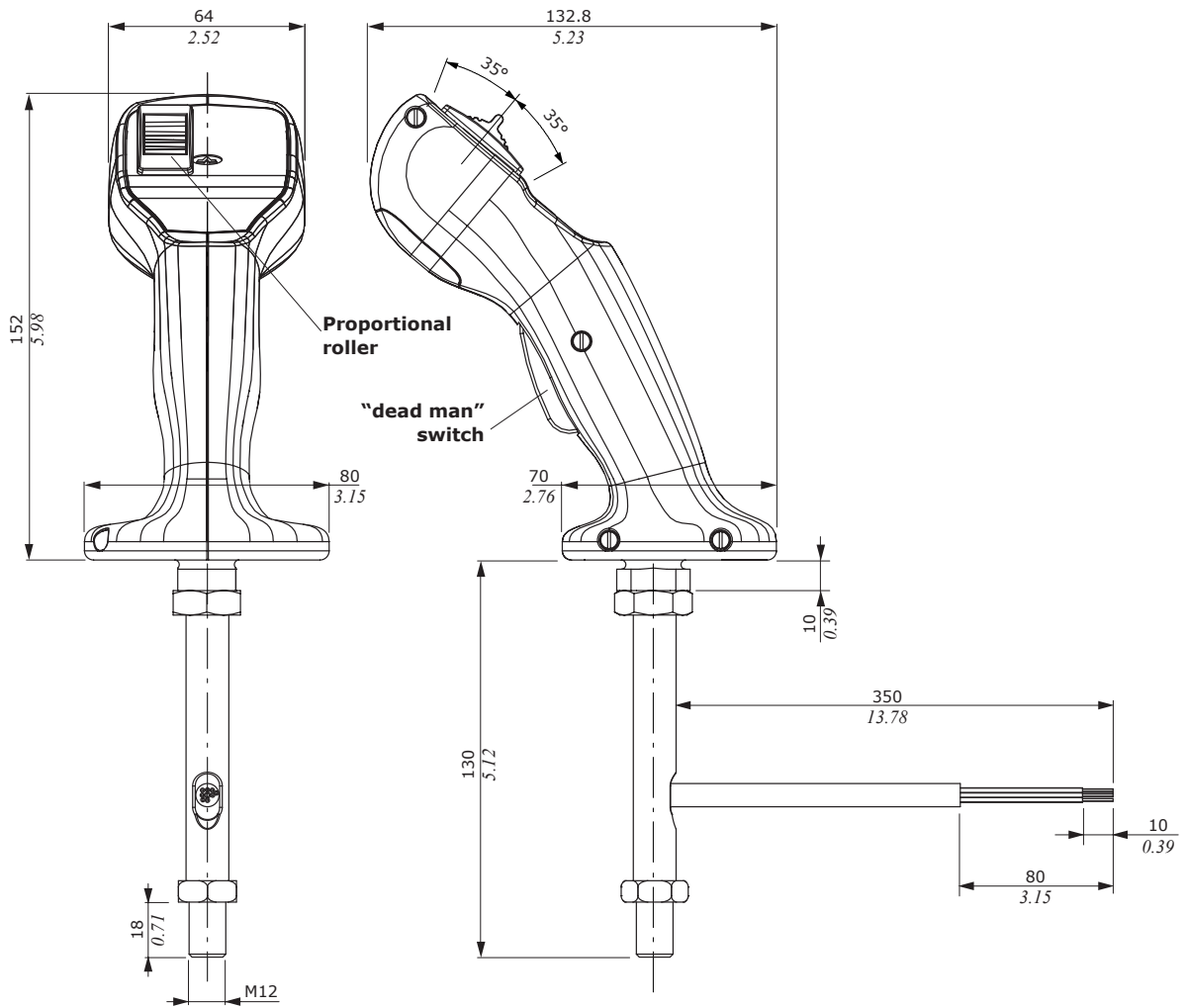
### With microswitch and 10 Series handle



Tipo	Knob (page 34)	h (thread)	F=M10			F=M12			
			L	lc	Code	h (thread)	L	lc	Code
AL14	tipo W	28-1.10	250-9.84	/	1701W2525	25-0.98	250-9.84	/	1701W3520
			250-9.84	425-16.7	1701X2525		250-9.84	425-16.7	1701X3525
AL15	tipo X	25-0.98	300-11.8	375-14.8	1701X2530	25-0.98	300-11.8	375-14.8	1701X3530
			350-13.8	325-12.8	1701X2535		350-13.8	325-12.8	1701X3535
			250-9.84	425-16.7	1701Z2525		250-9.84	425-16.7	1701Z3525
AL16	tipo Z	25-0.98	300-11.8	375-14.8	1701Z2530	25-0.98	300-11.8	375-14.8	1701Z3530
			350-13.8	325-12.8	1701Z2535		350-13.8	325-12.8	1701Z3535
			250-9.84	425-16.7	1701Y2525		250-9.84	425-16.7	1701Y3525
AL17	tipo Y	25-0.98	300-11.8	375-14.8	1701Y2530	25-0.98	300-11.8	375-14.8	1701Y3530
			350-13.8	325-12.8	1701Y2535		350-13.8	325-12.8	1701Y3535
			250-9.84	425-16.7	1701K2525		250-9.84	425-16.7	1701K3525
AL18	tipo K	25-0.98	300-11.8	375-14.8	1701K2530	25-0.98	300-11.8	375-14.8	1701K3530
			350-13.8	325-12.8	1701K2535		350-13.8	325-12.8	1701K3535
			250-9.84	425-16.7	1701T2525		250-9.84	425-16.7	1701T3525
AL19	tipo T	25-0.98	300-11.8	375-14.8	1701T2530	25-0.98	300-11.8	375-14.8	1701T3530
			350-13.8	325-12.8	1701T2535		350-13.8	325-12.8	1701T3535

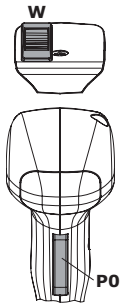
NOTE - For uncodified configurations or cables with no standard length, contact our Sales Dept.

Handlever with P series handle

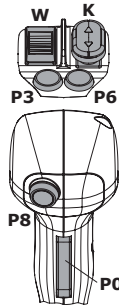
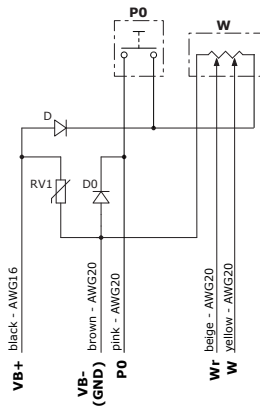


### Handlever with P series handle

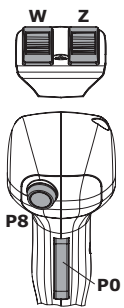
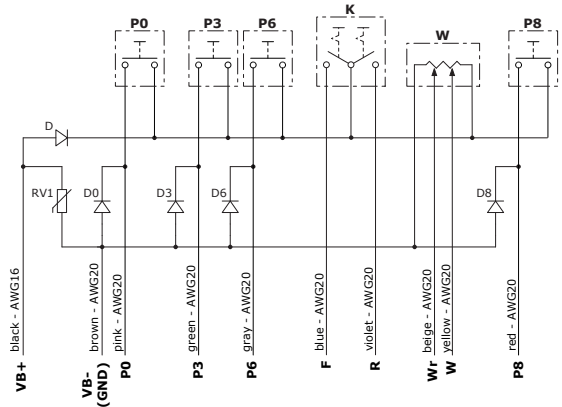
#### Configurations



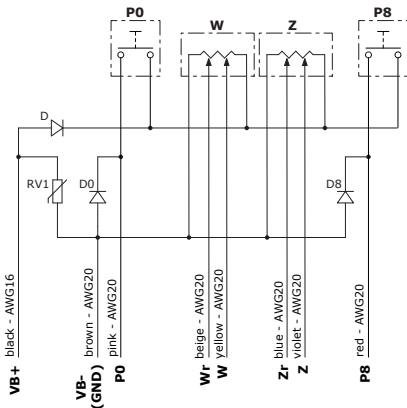
Code	<b>170800068</b>
Description	AL80-PZA0100D0-0RD035-WN130035(RV)-M12x280
Plate	1 proportional roller (W) with redundancy
Frontal zone	"Dead man" switch (P0)
Lever	M12x280



Code	<b>170800035</b>
Description	AL80-PZTM2110C0-0RD035-3R2D035-6R2D035-8R2D035-WN130035-KRS035(RV)-M12x280
Plate	2 push-buttons with spring return (P3-P6), proportional roller (W) with redundancy, FNR rocker switch (K)
Frontal zone	"Dead man" switch (P0), 1 push-button with spring return (P8)
Lever	M12x280



Code	<b>170800036</b>
Description	AL80-PZMM0200B0-0RD035-8R2D035-WN130035-ZN130035-(D2F12)-(TC-PROT)-M12x280
Plate	2 proportional rollers (W-Z) with redundancy
Frontal zone	"Dead man" switch (P0), 1 push-button with spring return (P8)
Lever	M12x280



NOTE - For different joint see page 4.  
For different handle configurations, contact our Sales Dept.









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