

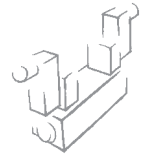
# HDM + PROFIBUS HEAVY DUTY MULTIMACH

The HDM+PROFIBUS system has been designed in such a way that the pneumatic input terminal contains all the electronics, signals and connectors. It is a very compact and sturdy system where everything is housed in a thick casing aluminium to protect the delicate components against impact. The valves and accessories are HDM standard, which means that you only need to replace the input terminal to convert the valve island with multiple connector into an PROFIBUS island. All the advantages of the HDM system can be exploited: the possibility of mounting valves of different size, with fittings for pipes 4, 6 or 8; the insertion of intermediate modules with separate power supply or outlets; aluminium valves with chemical nickel plating enclosed in a protective casing in reinforced technopolymer, with an index of protection IP65. The arrangement of the functions continues the traditional optimisation of the HDM: the user interface of the valves and bus all on one side, so that the fitter and service engineer have everything within easy reach: all compressed air connections are on the other side, and the electrical connectors and selectors are at the end of the island. It is advisable to earth the system to prevent electrical or electrostatic discharge from damaging the electronic circuit.



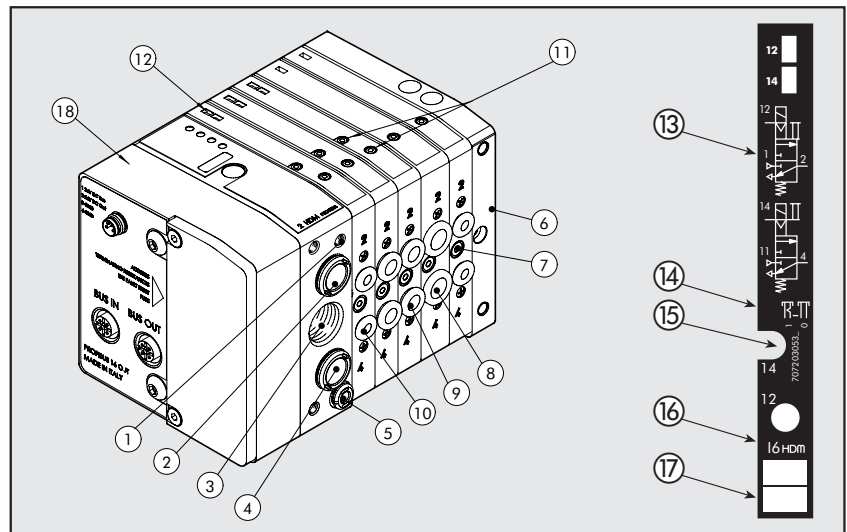
## TECHNICAL DATA

Valve port connections	Ø 4,6,8 mm fitting for ports 2 and 4 / Ø8 fitting for inlet port / thread 3/8 or Ø8 fitting for exhaust port		
Connection on the end-plate 1-11 for the supply of pilots	Automatic fitting Ø 4 mm		
Maximum number of pilots	16		
Maximum number of valves	16 (same as the max. no. of pilots)		
Operating temperature range	-10 ÷ +60 °C		
Fluid	Filtered air without lubrication; lubrication, if used, must be continuous		
Flow rate at 6 bar ΔP 1bar	NI/min	11mm Ø 4 = 200	14mm Ø 8 = 800
Pressure range		X (pilot supply)	1-11 (valve supply)
	- terminal 1-11	3 ÷ 7 bar	vacuum at 10 bar
	- terminal 1	3 ÷ 7 bar	
Voltage range		24 VDC ±10%	
		(slave protected against overload and reverse polarity)	
Power for each pilot	W	0,6	
Solenoid Pilot Insulation class		F155	
Degree of protection		IP65 with conveyed exhaust	
Solenoid rating		100% ED	
TRA/TRR 2X3/2 monostable at 6 bar	ms	8 / 45	
TRA/TRR 5/2 monostable at 6 bar	ms	8 / 33	
TRA/TRR 5/2 bistable at 6 bar	ms	20 / 20	
TRA/TRR 5/3 cc monostable at 6 bar	ms	20 / 20	
Note on use	Insert the pipes in the fittings, before passing air through the valves, otherwise the gasket may be pulled out of its seat by the flow of air. For compatibility with oils, refer to the technical documentation – Section 6		
<b>Profibus DP module for HDM valves</b>			
Protection	Outputs protected against overloads and shortcircuits		
Max input power (all valves ON)	~ 500 mA		
Addressing	By rotary selectors		
Highest settable address number	99		
Default address	3		
Peripheral defect diagnosis	Local LED indicator and relay to Master		
Defects reported	Output shortcircuit or overload. Auxiliary power supply failure. Profibus communication active.		
Module status in the event of peripheral defect	The "peripheral defect" bit is active and accessible at the master station.		
Data bit value	0 = not enabled 1 = enabled		
Output status in the absence of communication	Disabled		

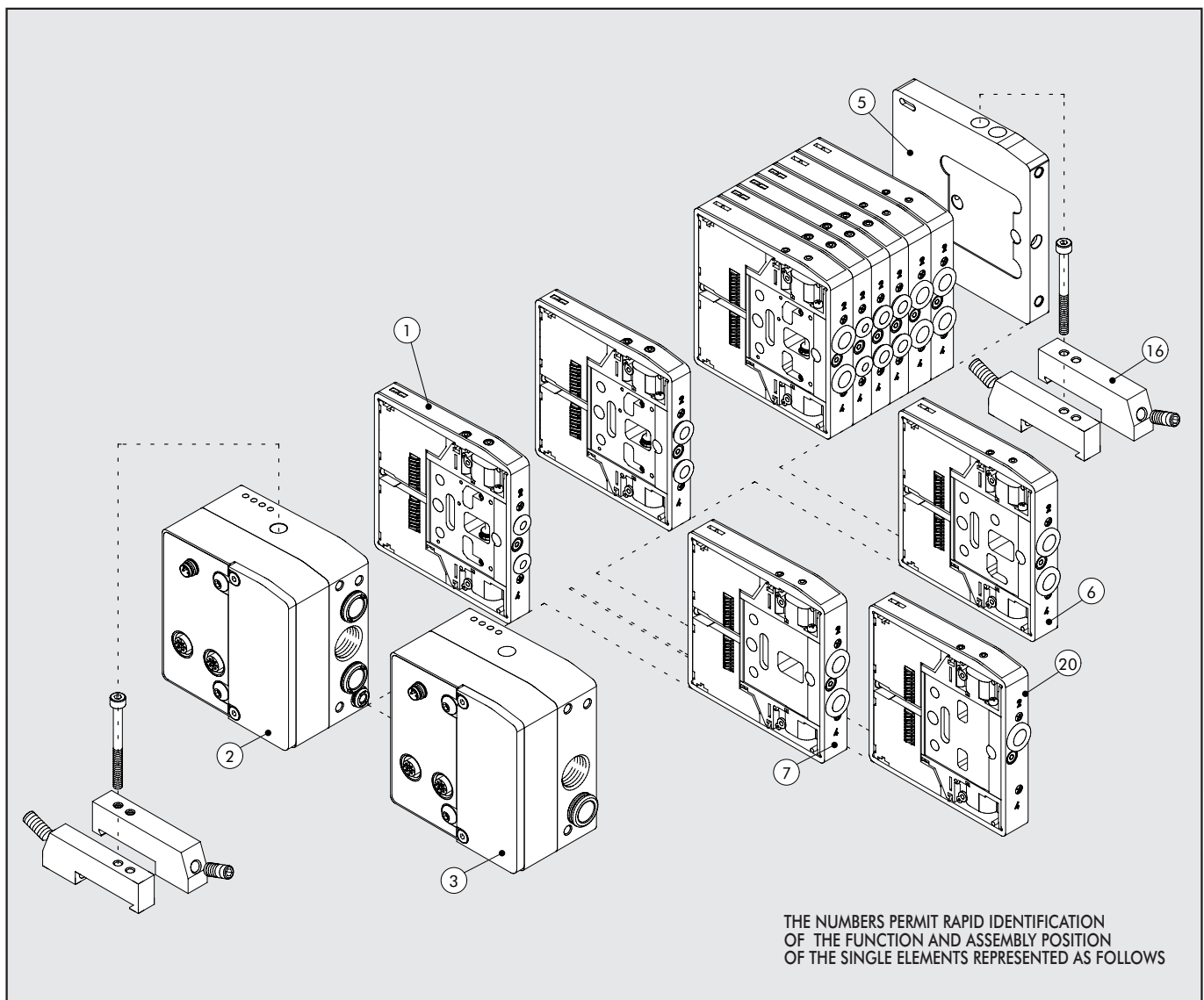


## COMPONENTS

- ① Exhaust – Solenoid pilot 82/84
- ② Valve supply – port 1
- ③ Threaded connection of exhausts 3/5
- ④ Valve supply – port 11
- ⑤ Electrical control supply X
- ⑥ Blind end-plate
- ⑦ Screw for valve wall-mounting
- ⑧ Utility port for pipe Ø 8 mm
- ⑨ Utility port for pipe Ø 6 mm
- ⑩ Utility port for pipe Ø 4 mm
- ⑪ Manual control
- ⑫ LED (LED on, solenoid valve energised)
- ⑬ Pneumatic symbol
- ⑭ Identification of the monostable or bistable manual control
- ⑮ Valve ordering code
- ⑯ Valve identification code
- ⑰ Blank space for valve number
- ⑱ Profibus terminal

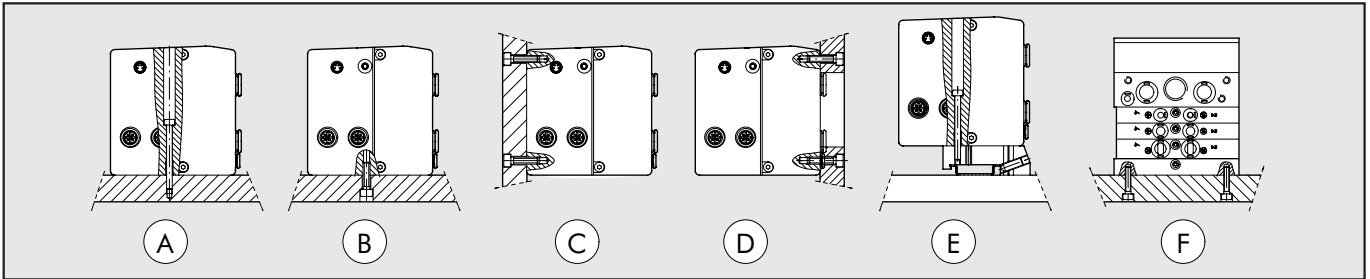


## THE MULTIMACH WORLD: FLEXIBILITY



THE NUMBERS PERMIT RAPID IDENTIFICATION OF THE FUNCTION AND ASSEMBLY POSITION OF THE SINGLE ELEMENTS REPRESENTED AS FOLLOWS

## FIXING THE BASE



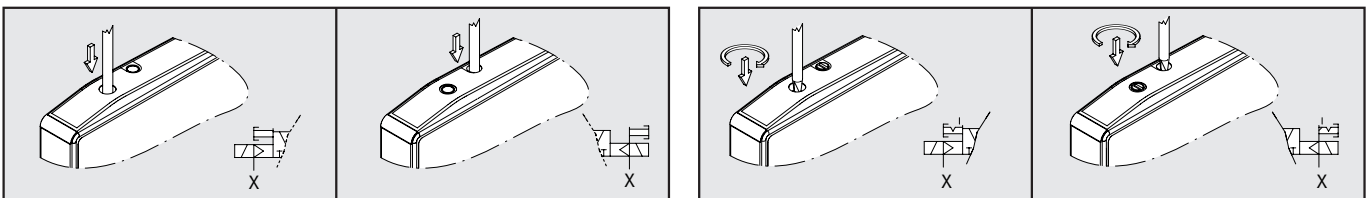
- A:** Fixing from above using the 1 or 1-1 input terminal and the blind terminal.
- B-C:** Fixing from above using the 1 or 1-1 input terminal and the blind terminal, using the M5 threads on the bottom and the rear of the terminals.
- D:** Fixing from above using the 1 or 1-1 input terminal and the blind terminal, using the M5 threads on the front of the terminals. An opening for the pipes is made in the plate.
- E:** Fixing on the DIN bar with end-plate 1 or 1-11 and blind and plate, using the push-in bracket code 0227301600.
- F:** Lateral fixing using the blind terminal, and its the M4 threads on the side lateral.  
**Note:** The sole fixing admitted is the one showed.

## KEY TO CODES – MULTIMACH-UNIT HDM + PROFIBUS-DP

H	D	M	2	P	M	16-W8-W6-O4-L8-5	1	6
VALVE		INPUT END-PLATE		ELECTRICAL BASE	MANUAL TYPE	TYPE OF VALVE	FURTHER DETAILS	
Heavy duty Multimach IP65		2	End-plate 1-11	P	M	I	16	n° 2 brackets for DIN bar
		3	End-plate 1		B	W		
						L		
						V		
						K		
						O		
						F*		
						5		
						6		
						7		
						20	exhaust section.	
						4	cartridge 4	
						6	cartridge 6	
						8	cartridge 8	

\* uses a single PIN (like the V) and occupies 2 signals

## MANUAL CONTROLS



**MONOSTABLE OVERRIDE PORT 2**  
with direct actuation on the spool

- Press and hold the manual control in position (not necessary for bistable type K valve)
- Release the manual control:
  - With valves type I, W, L, V and F, the manual control returns to the home position, and the valve repositions.
  - With type K valves, the manual control remains in position and the valve remains switched.
  - With type O valves, the manual control does not return completely to the home position but the valve does reposition.

**N.B.:** The pilot power supply X need not be present.

• The reference code for the monostable control ends in 0 (2 for type F).

**MONOSTABLE OVERRIDE PORT 4**  
servo-assisted

- Press and hold the manual control in position (not necessary for bistable type K valve)
- Release the manual control:
  - The manual control returns to the home position.
  - Valves type I, W, L, V and F reposition.
  - The type K valve remains switched

With type F and V valves, this manual control is not present.

**N.B.:** The pilot power supply X must be present.

**BISTABLE OVERRIDE PORT 2**  
with direct actuation on the spool

- Press the manual control right in then turn it fully clockwise and Leave it in position.
- Rotate the manual control fully anticlockwise, and then release it.
  - With valves type I, W, L, V and F, the manual control returns to the home position, and the valve repositions.
  - With type K valves, the manual control remains in position and the valve remains switched.
  - With type O valves, the manual control does not return completely to the home position but the valve does reposition.

**N.B.:** The pilot power supply X need not be present.

• The reference code for the monostable control ends in 1 (3 for type F).


**BISTABLE OVERRIDE PORT 4**  
servo-assisted

- Press the manual control right in then turn it fully clockwise and Leave it in position.
- Rotate the manual control fully anticlockwise, and then release it:
  - The manual control returns to the home position.
  - Valves type I, W, L and O reposition.
  - The type K valve remains switched


With type F and V valves, this manual control is not present.

**N.B.:** The pilot power supply X must be present.

Example: 707203053\_1  
0

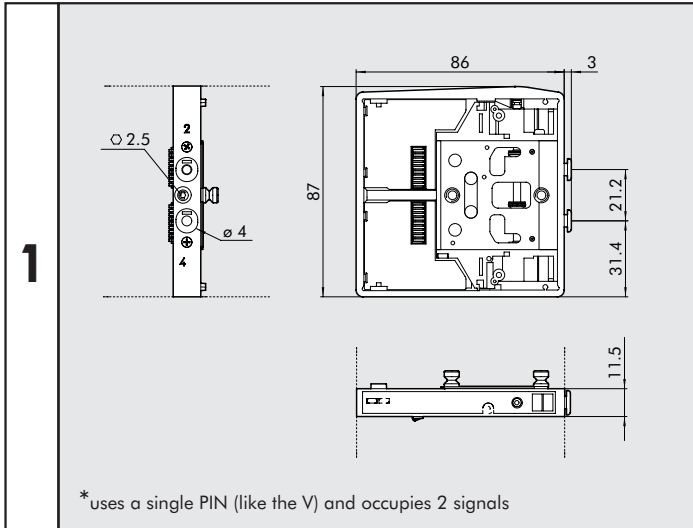


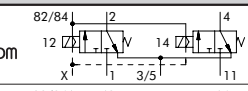
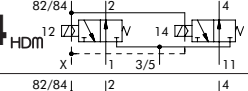
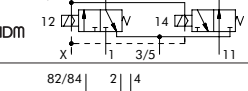
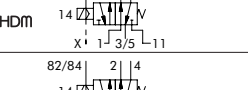
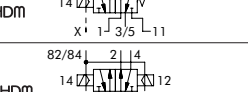
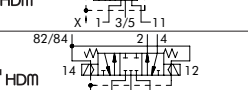
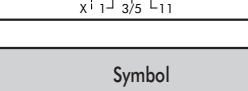
Example: 707203053\_1  
0



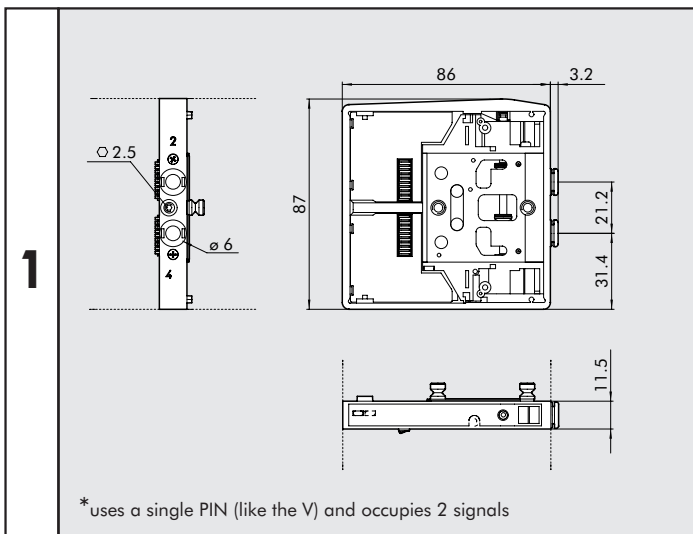


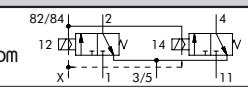
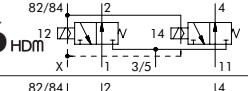
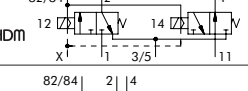

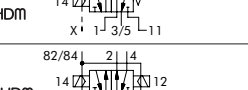
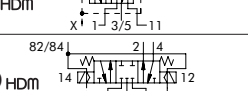
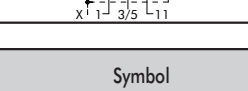
### VALVE DIMENSIONS HDM Ø 4



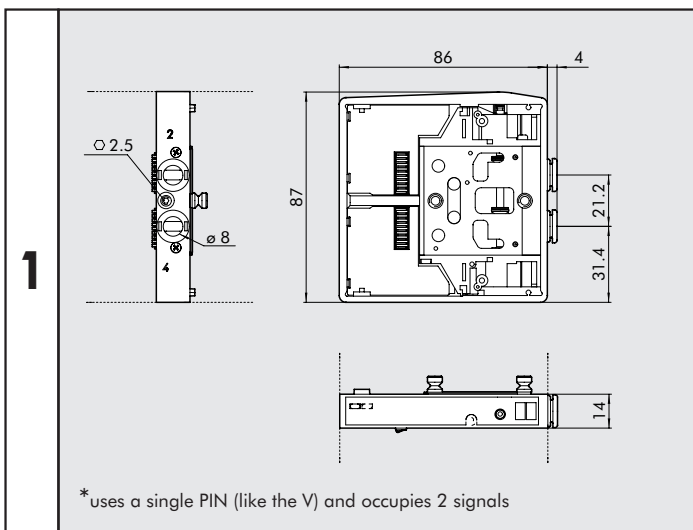
	Symbol	Manual Control	Code	Weight [g]
<b>I4</b> <sub>HDM</sub>		monostable	7071030530	130
		bistable	7071030531	
<b>W4</b> <sub>HDM</sub>		monostable	7071030630	130
		bistable	7071030631	
<b>L4</b> <sub>HDM</sub>		monostable	7071030730	130
		bistable	7071030731	
<b>V4</b> <sub>HDM</sub>		monostable	7071030130	115
		bistable	7071030131	
<b>*F4</b> <sub>HDM</sub>		monostable	7071030132	115
		bistable	7071030133	
<b>K4</b> <sub>HDM</sub>		monostable	7071030110	130
		bistable	7071030111	
<b>O4</b> <sub>HDM</sub>		monostable	7071030210	130
		bistable	7071030211	

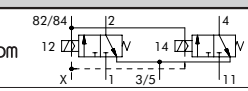
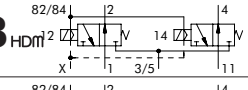
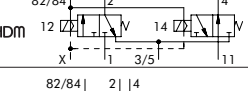

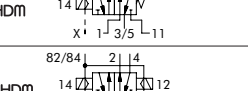
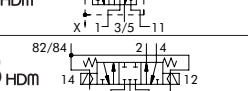
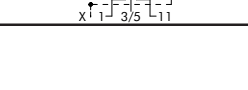
### VALVE DIMENSIONS HDM Ø 6

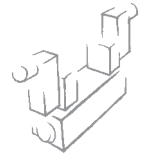


	Symbol	Manual Control	Code	Weight [g]
<b>I6</b> <sub>HDM</sub>		monostable	7072030530	130
		bistable	7072030531	
<b>W6</b> <sub>HDM</sub>		monostable	7072030630	130
		bistable	7072030631	
<b>L6</b> <sub>HDM</sub>		monostable	7072030730	130
		bistable	7072030731	
<b>V6</b> <sub>HDM</sub>		monostable	7072030130	115
		bistable	7072030131	
<b>*F6</b> <sub>HDM</sub>		monostable	7072030132	115
		bistable	7072030133	
<b>K6</b> <sub>HDM</sub>		monostable	7072030110	130
		bistable	7072030111	
<b>O6</b> <sub>HDM</sub>		monostable	7072030210	130
		bistable	7072030211	

### VALVE DIMENSIONS HDM Ø 8

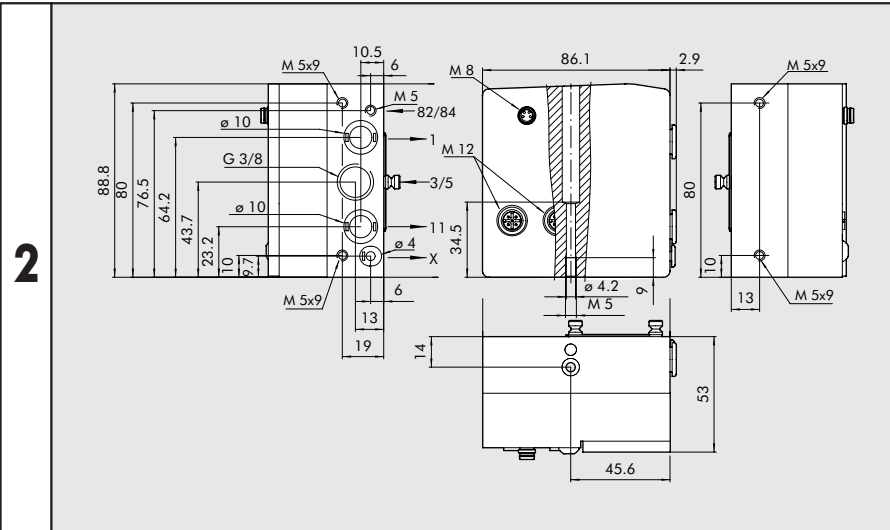


	Symbol	Manual Control	Code	Weight [g]
<b>I8</b> <sub>HDM</sub>		monostable	7073030530	140
		bistable	7073030531	
<b>W8</b> <sub>HDM</sub>		monostable	7073030630	140
		bistable	7073030631	
<b>L8</b> <sub>HDM</sub>		monostable	7073030730	140
		bistable	7073030731	
<b>V8</b> <sub>HDM</sub>		monostable	7073030130	130
		bistable	7073030131	
<b>*F8</b> <sub>HDM</sub>		monostable	7073030132	130
		bistable	7073030133	
<b>K8</b> <sub>HDM</sub>		monostable	7073030110	140
		bistable	7073030111	
<b>O8</b> <sub>HDM</sub>		monostable	7073030210	140
		bistable	7073030211	



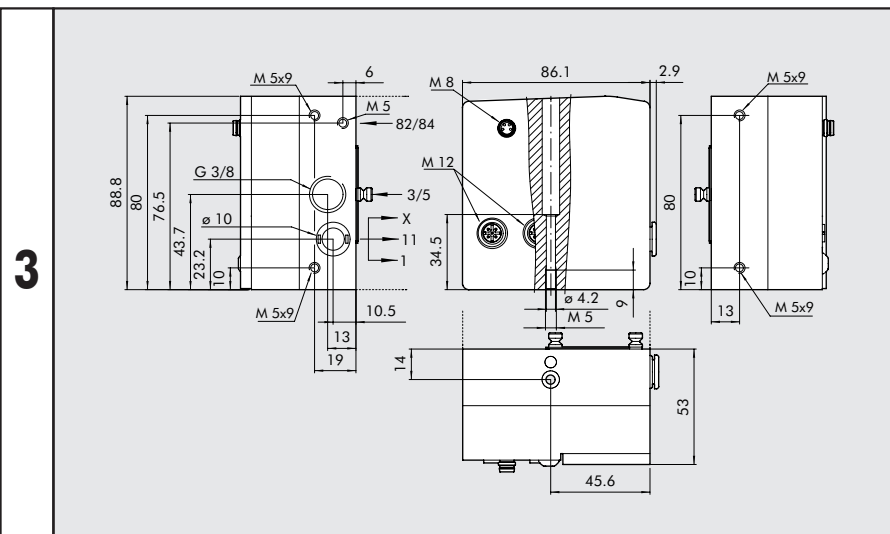
# ACCESSORIES

## TERMINAL 1-11 PROFIBUS



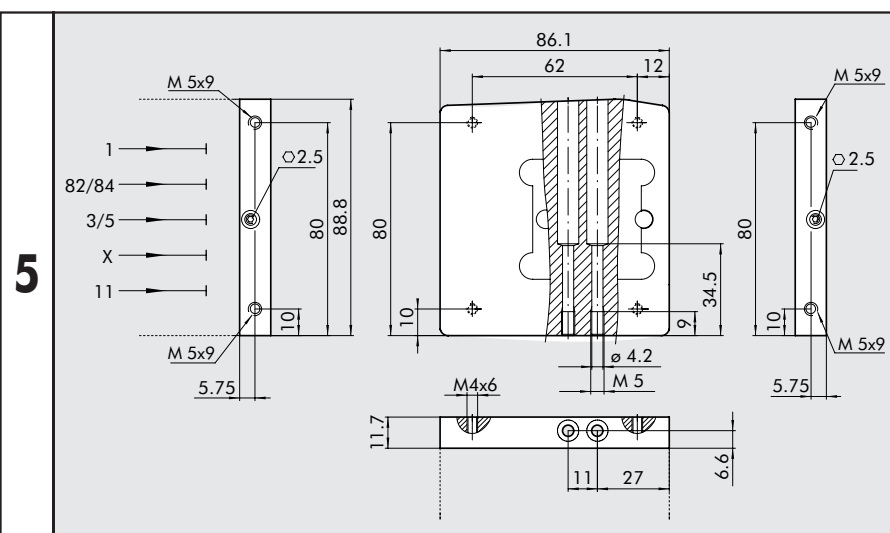
Code	Description	Weight [g]
0227301230	KIT TERMINAL HDM 1-11 PROFIBUS	730

## TERMINAL 1 PROFIBUS



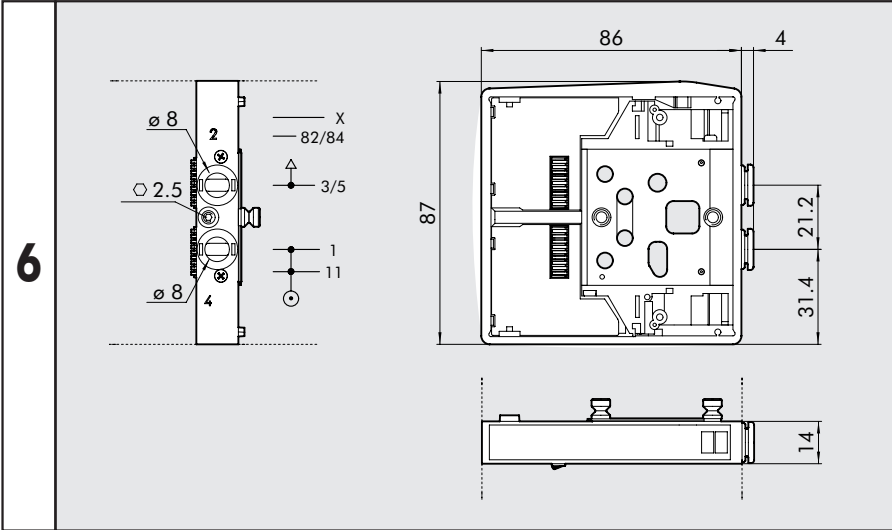
Code	Description	Weight [g]
0227301231	KIT TERMINAL HDM 1 PROFIBUS	730

## BLIND END-PLATE



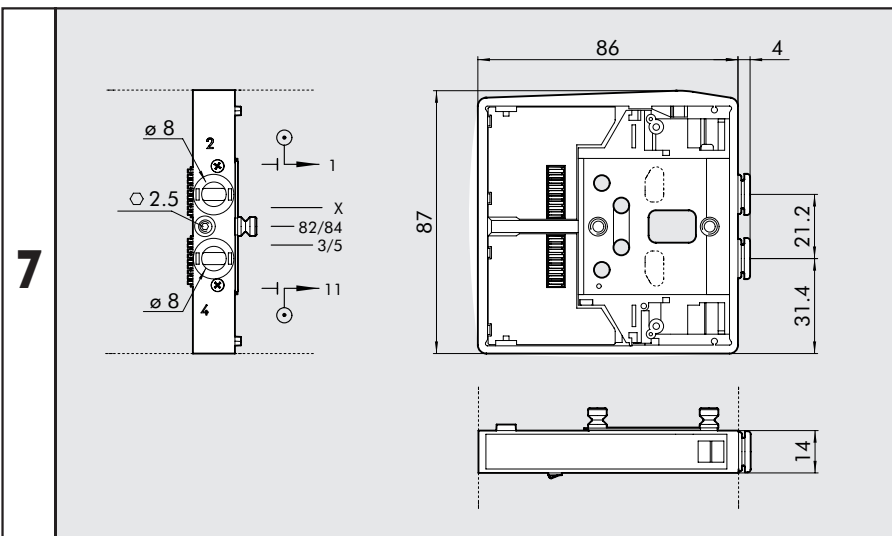
Code	Description	Weight [g]
0227301500	BLIND END-PLATE HDM	230

### INTERMEDIATE THROUGH



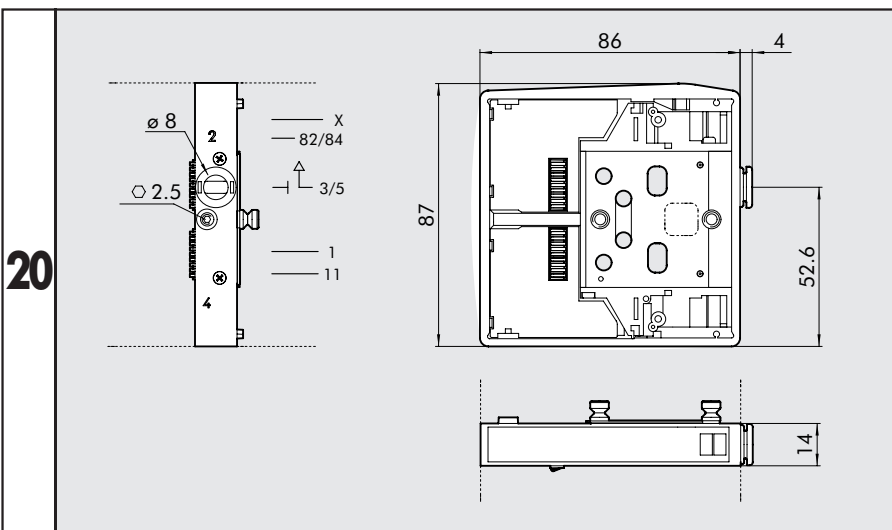
Code	Description	Weight [g]
0227301301	INTERMEDIATE THROUGH HDM	120

### INTERMEDIATE BLIND

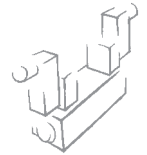


Code	Description	Weight [g]
0227301302	INTERMEDIATE BLIND HDM	117

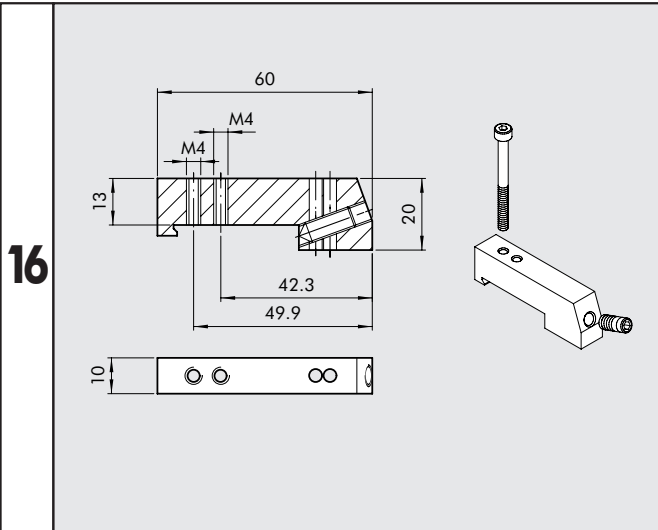
### INTERMEDIATE EXHAUST SWITCH



Code	Description	Weight [g]
0227301303	INTERMEDIATE EXHAUST SWITCH HDM	125



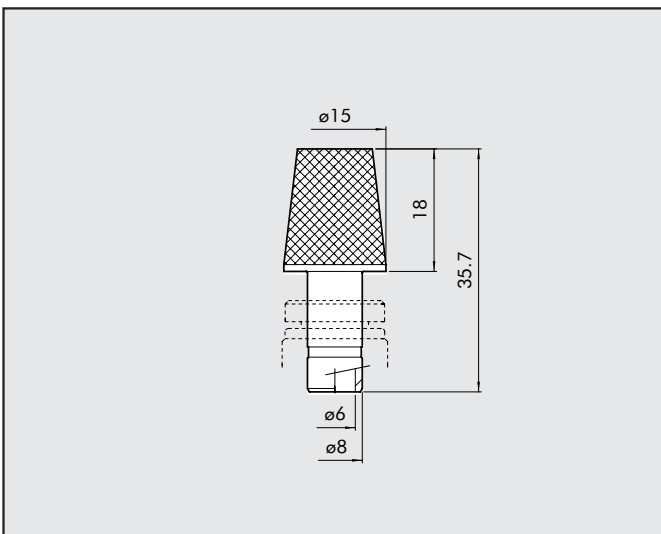
## CONNECTION BRACKETS ON DIN BAR



Code	Description	Weight [g]
0227301600	CONNECTION BRACKETS ON DIN BAR HDM/CM	30

Supplied complete with one M4x45 screws and one M6 grub screw Individually packed

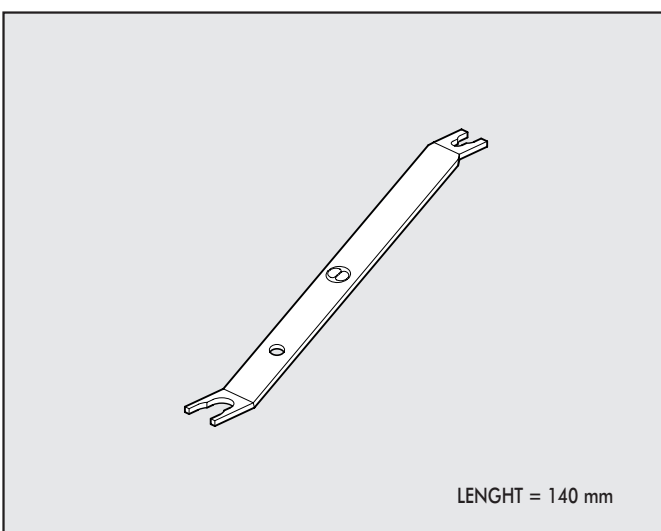
## SILENCER FOR FITTING, Ø 8



Code	Description	Weight [g]
W0970530084	SILENCER FOR FITTING, Ø 8	15

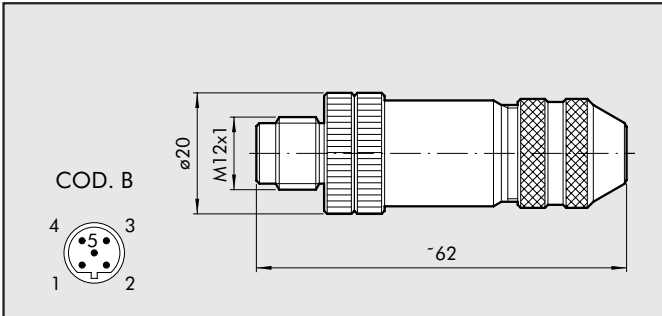
At the 3/5-exhaust port of the intermediate through reference 6 and of the exhaust switch reference 20

## R17 - PIPE RELEASE SPANNER



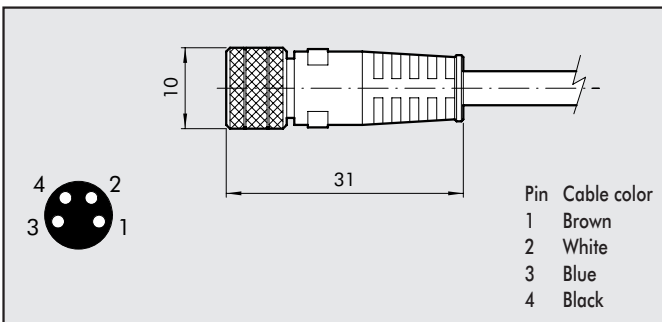
Code	Description	Ø Tube	Notes
2L17001	RL17	from Ø 3 to Ø 10	For R fitting and Fox fitting

### M12 MALE CONNECTOR IN-OUT BUS



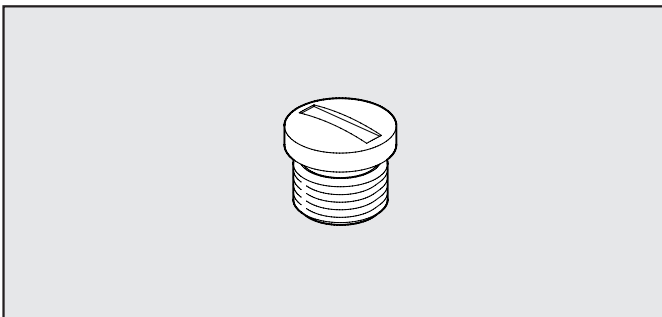
Code	Description
0240009035	Male connector IN-OUT Bus B coding

### M8 CONNECTOR FOR POWER SUPPLY



Code	Description
0240009037	M8 connector for power supply wire 5 m

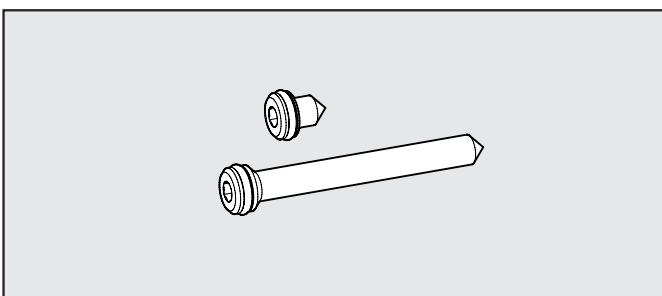
### M8 - M12 PLUG



Code	Description
0240009039	PLUG M8
0240009040	PLUG M12

## SPARES

### GRUB SCREW KIT



Code	Description
0227301800	GRUB SCREW FOR MULTIMACH HDM/CM

Comes in 1+1 pc. packs

METAL WORK S.p.A

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[www.metalwork.it](http://www.metalwork.it) - [metalwork@metalwork.it](mailto:metalwork@metalwork.it)

The dimensions shown in this catalogue are subject to variations at any time without prior notice