

**3/2 Poppet Valves  
Electrically Actuated  
M5**

- Miniature, 22 mm normally closed and normally open models
- Sub-base mounted and manifold mounted
- Manual override as standard
- Encapsulated coils with very rapid fitting

**Technical Data**

Medium:

Compressed air, filtered, lubricated and non-lubricated

Operation:

Poppet valve, directly actuated with spring return

Mounting:

Through-holes with thread in sub-base

Port Size:

M5

Operating Pressure:

0 - 10 bar M/48, DM/48

0 - 7 bar M/148, DM/148

Flow (to CETOP RP50P):

Conductance dm<sup>3</sup>/s/bar 0,26 M/48, DM/48

Conductance dm<sup>3</sup>/s/bar 0,297 M/148, DM/148

Critical pressure ratio 0,23 M/48, DM/48

Critical pressure ratio 0,117 M/148, DM/148

Cv 0,067

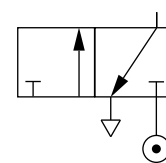
Cv 0,04 -/127

Operating Temperature:

-5°C\* to +50°C supply air

+5°C to +50°C ambient

\*Consult our Technical Service for use below +2°C

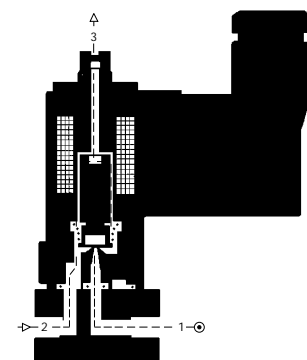

**Materials**

Plastic encapsulated coil, moulded plastic manual override base, stainless steel armature tube and spring, aluminium sub-base, nitrile rubber seals.

**Ordering Information**

To order, quote model number followed by voltage code shown in the tables overleaf, e.g. M/48/167 for a normally closed low power model suitable for a 220V 50Hz electrical supply.

Replacement coil and terminal box assemblies can also be supplied, quote required model number with 'Q' prefix before the 'M' and '/28' suffix after the voltage code as shown in the table overleaf. For manifold models order the required number as indicated by the 'T' suffix in the model number, e.g. 4 off QM/48/10/28 for DM/148/10/T4.





## General Information

Model	Operation	Manifold Models - Number of valves	Weight (kg)	Coil and Terminal Box Assembly	Spares kit
M/48	Normally closed	–	0,13	QM/48/*/28	QM/48/00
DM/48/T2	Normally closed	2	0,31	QM/48/*/28	QM/48/T2/00
DM/48/T3	Normally closed	3	0,45	QM/48/*/28	QM/48/T3/00
DM/48/T4	Normally closed	4	0,60	QM/48/*/28	QM/48/T4/00
M/148	Normally open	–	0,13	QM/48/*/28	QM/48/00

\*Insert voltage code, e.g. QM/48/173/28 for the low power 24V d.c. model.

## Electrical Details for M/48 and M/148 Valves

Voltage	Codes	Availability
12 V d.c.	160	M/48, DM/48
24 V d.c. (low power)	173	M/48, DM/48
24 V d.c.	127	M/48, DM/48
24 V 50/60Hz	164	M/48, DM/48, M/148
48 V 50/60Hz	165	M/48, DM/48, M/148
110/120 V 50/60Hz	166	M/48, DM/48, M/148
220/240 V 50/60Hz	167	M/48, DM/48, M/148

**Note:** DC version of M/148 available on request.

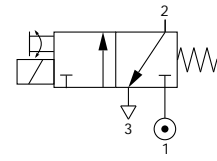
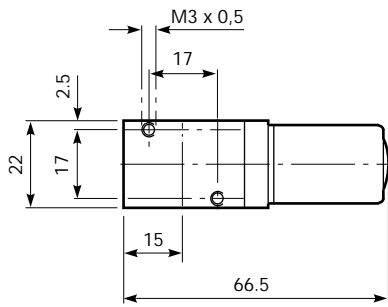
<b>Voltage Tolerances:</b>	d.c.: +10/-15% a.c.: +10/-15%
<b>Power:</b>	d.c.: 2 W (low power - 0,5 W on 24 V)
<b>Inrush/Hold:</b>	a.c.: 4/2,5 VA (9/5 VA on 220/240 V) 100% E.D.
<b>Inlet Orifice:</b>	1,0 mm
<b>Operating Pressure:</b>	0 - 10 bar
<b>Terminal Box:</b>	3 pin plug with cable grip (DIN 43650 Form B) May be rotated 180°
<b>Cable Entry:</b>	Pg9
<b>Solenoid Coil:</b>	May be rotated at 90° intervals
<b>Manual Override:</b>	Standard, turn 180° anti-clockwise to operate, turn clockwise to release
<b>Protection Class:</b>	IP65 (DIN 40050)
<b>Typical Response Times:</b>	12 ms on 15 ms off

## Replacement Coil Assemblies

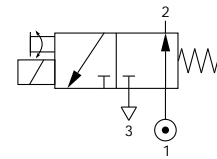
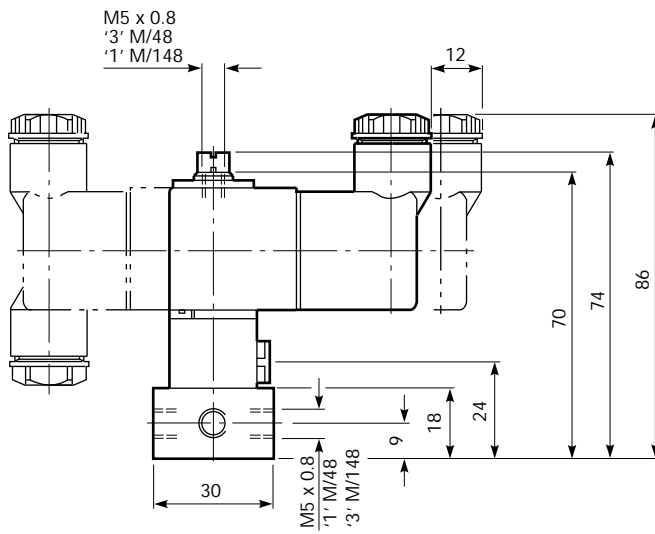
The QM/48/*/28 replacement coil assemblies are suitable for the following solenoid pilot operated models:		
–	M/1761	M/1762
M/1764	M/1772	M/1774
M/20134	M/20154	M/20254
UM/22152	UM/22162	UM/22253
UM/22263	UM/22354	UM/22364
UM/22456	UM/22466	UB/24152/-/MD
UB/24162/-/MD	14 1—- models	14 2—- models
X4 1—- models	X4 2—- models	X4 9—- models
EM/45100	EM/45700	EM/45000



### Electrically Actuated Sub-base Mounted Valve



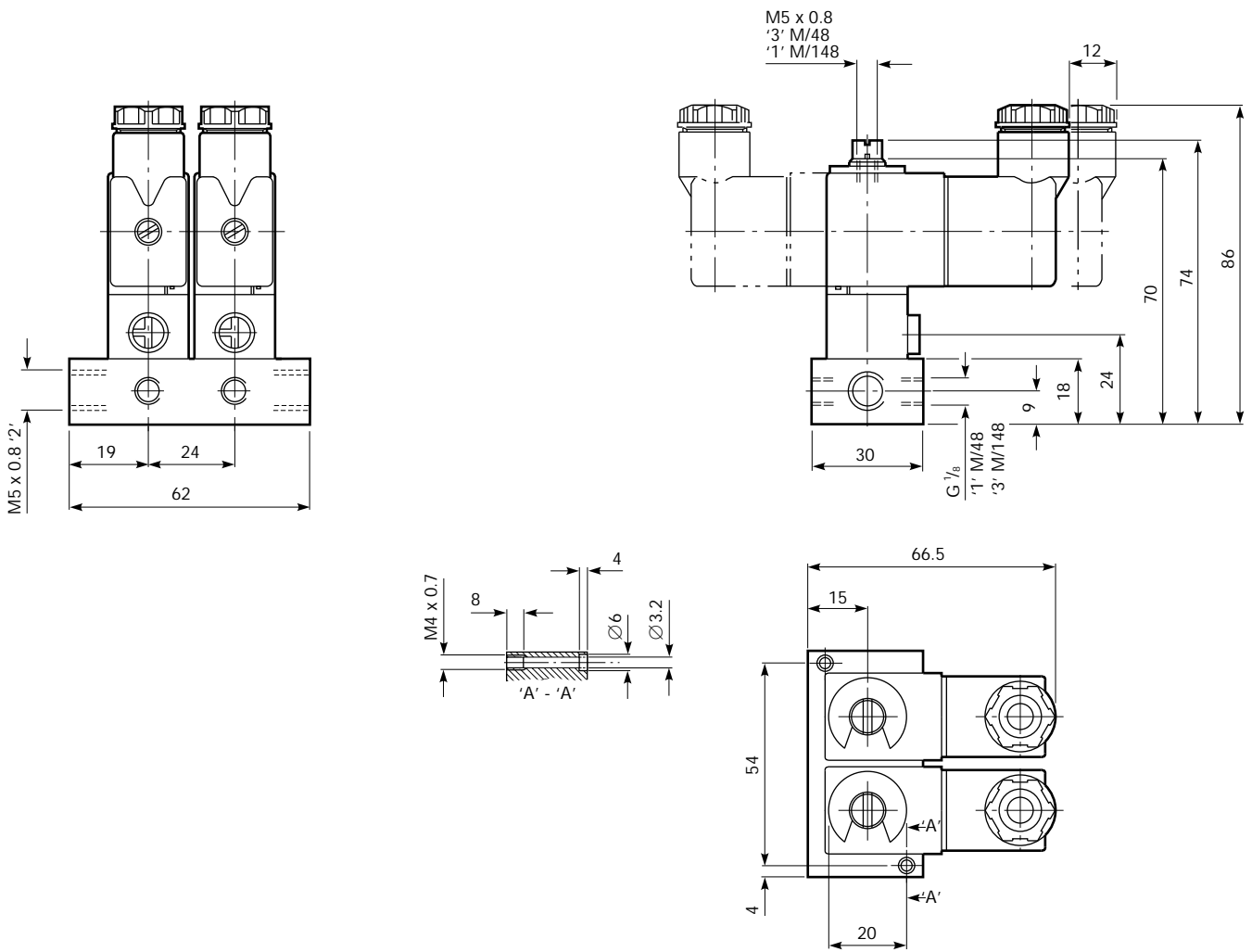
Model Number: **M/48**  
Type: 3/2 Normally closed



Model Number: **M/148**  
Type: 3/2 Normally open



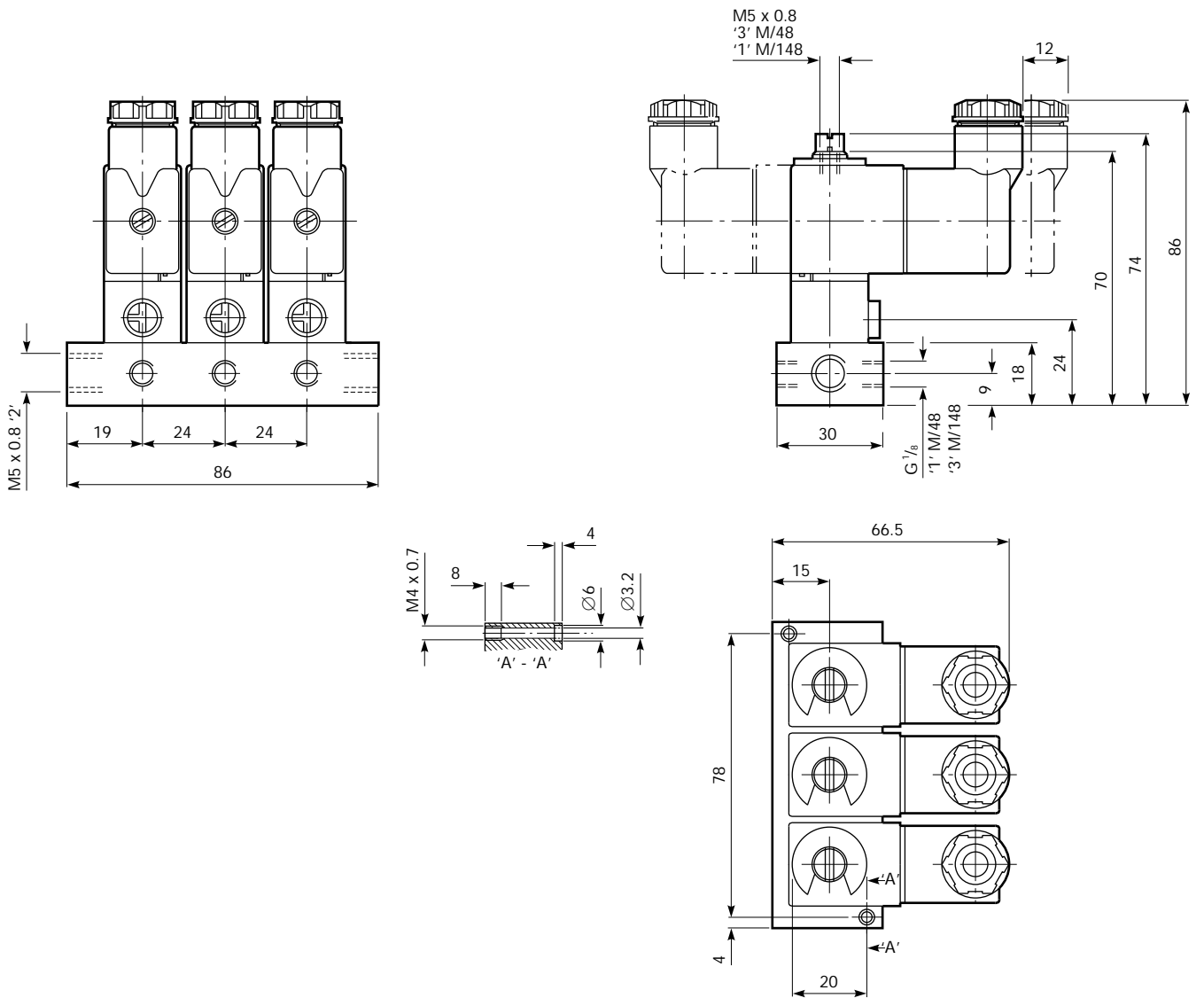
### Electrically Actuated Manifold Mounted Valve



Model Number: **DM/48/T2**  
Type: 3/2 Normally closed  
Number of valves on manifold: 2



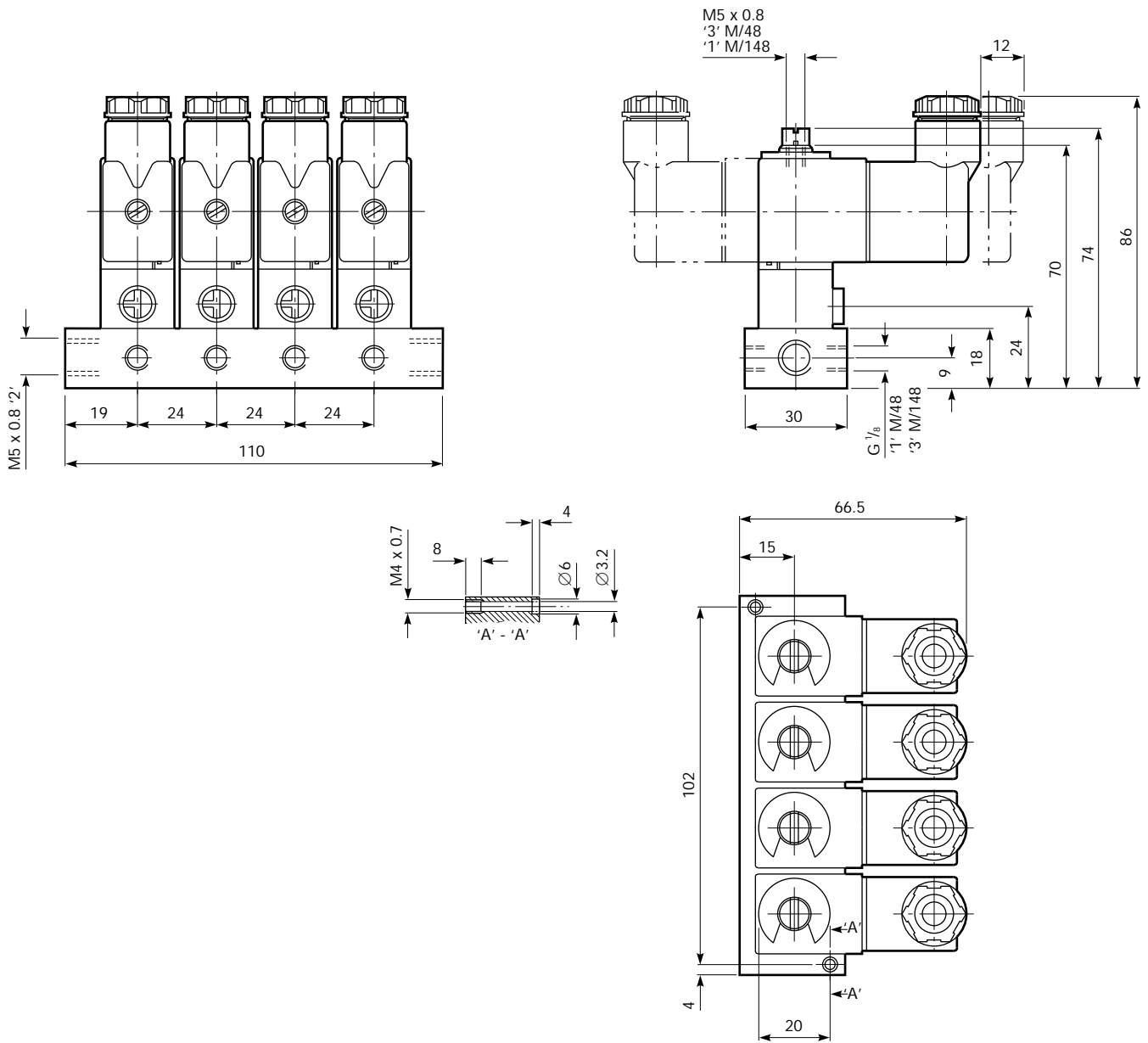
### Electrically Actuated Manifold Mounted Valve



Model Number: **DM/48/T3**  
 Type: 3/2 Normally closed  
 Number of valves on manifold: 3



### Electrically Actuated Manifold Mounted Valve



Model Number: **DM/48/T4**  
Type: 3/2 Normally closed  
Number of valves on manifold: 4



## Options and Accessories

### Terminal Box with Lamp Indicator

Voltage range	Terminal box	Maximum current consumption of indicator circuit
12-24 V d.c.	M/P24121/1*	35 mA
90-130 V d.c.	M/P24121/2	15 mA
80-130 V a.c.**	M/P24121/2	15 mA
150-230 V a.c.**	M/P24121/3	15 mA

\*Reduced light intensity at 12V.

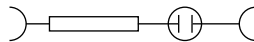
\*\*Suitable for use at any frequency.

Lamp arrangement M/P24121/1



1 blocking diode, 1 filament lamp

Lamp arrangement M/P24121/2 and M/P24121/3



1 glow lamp, 1 resistor

## Warning

These products are intended for use in industrial compressed air systems only. Do not use these products where *pressures* and *temperatures* can exceed those listed under '**Technical Data**'.

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems, or other applications not within published specifications, consult NORGREN MARTONAIR.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes. The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

**System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.**

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.

**3/2 Poppet Valves  
Electrically Actuated  
G<sup>1</sup>/<sub>8</sub>**

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- Manual override as standard
- Encapsulated coils with very rapid fitting

**Technical Data**

Medium:

Compressed air, filtered, lubricated and non-lubricated

Operation:

Poppet valve, directly actuated with spring return

Mounting:

Through-holes with thread in sub-base

Port Size:

G<sup>1</sup>/<sub>8</sub>

Operating Pressure:

0 - 10 bar M/49, DM/49

0 - 7 bar M/149, DM/149

Flow (to CETOP RP50P):

Conductance dm<sup>3</sup>/s/bar 0,25 M/49, DM/49

Conductance dm<sup>3</sup>/s/bar 0,297 M/149, DM/149

Critical pressure ratio 0,43 M/49, DM/49

Critical pressure ratio 0,117 M/149, DM/149

Cv 0,067

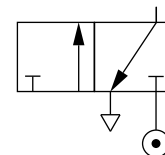
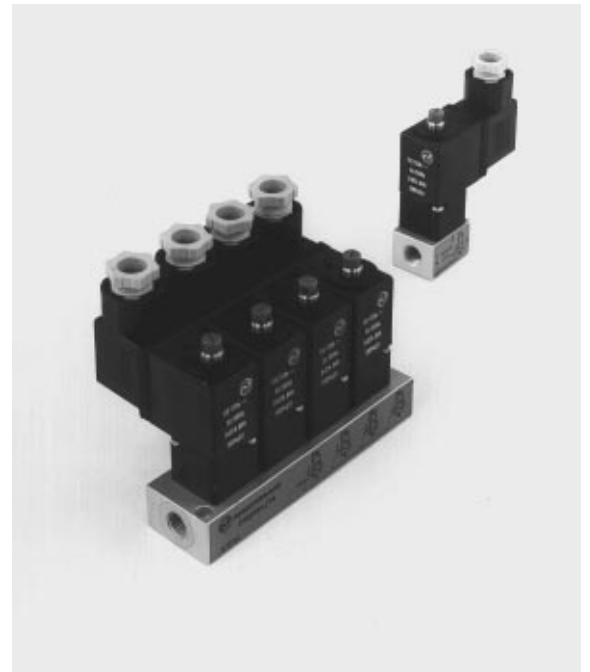
Cv 0,04 -/127

Operating Temperature:

-5°C\* to +50°C supply air

+5°C to +50°C ambient

\*Consult our Technical Service for use below +2°C

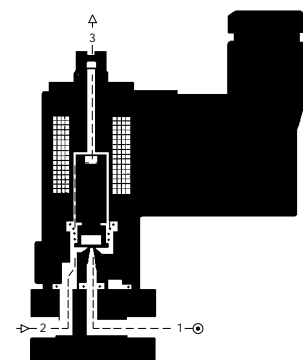

**Materials**

Plastic encapsulated coil, moulded plastic manual override base, stainless steel armature tube and spring, aluminium sub-base, nitrile rubber seals.

**Ordering Information**

To order, quote model number followed by voltage code shown in the tables overleaf, e.g. M/49/167 for a normally closed low power model suitable for a 220V 50Hz electrical supply.

Replacement coil and terminal box assemblies can also be supplied, quote required model number with 'Q' prefix before the 'M' and '/28' suffix after the voltage code as shown in the table overleaf. For manifold models order the required number as indicated by the 'T' suffix in the model number, e.g. 4 off QM/48/10/28 for DM/149/10/T4.







## General Information

Model	Operation	Manifold Models - Number of valves	Weight (Kg)	Coil and Terminal Box Assembly	Spares kit
M/49	Normally closed	-	0,14	QM/48/*/28	QM/48/00
DM/49/T2	Normally closed	2	0,31	QM/48/*/28	QM/48/T2/00
DM/49/T3	Normally closed	3	0,45	QM/48/*/28	QM/48/T3/00
DM/49/T4	Normally closed	4	0,60	QM/48/*/28	QM/48/T4/00
M/149	Normally open	-	0,14	QM/48/*/28	QM/48/00

\*Insert voltage code, e.g. QM/48/173/28 for the low power 24V d.c. model.

## Electrical Details for M/49 and M/149 Valves

Voltage	Codes	Availability
12 V d.c.	160	M/49, DM/49
24 V d.c. (low power)	173	M/49, DM/49
24 V d.c.	127	M/49, DM/49, M/149,
24 V 50/60Hz	164	M/49, DM/49, M/149
48 V 50/60Hz	165	M/49, DM/49, M/149
110/120 V 50/60Hz	166	M/49, DM/49, M/149
220/240 V 50/60Hz	167	M/49, DM/49, M/149

**Note:** DC version of M/149 available on request.

<b>Voltage Tolerances:</b>	d.c.: +10/-15% a.c.: +10/-15%
<b>Power:</b>	d.c.: 2 W (low power - 0,5 W on 24 V)
<b>Inrush/Hold:</b>	a.c.: 4/2,5 VA (9/5 VA on 220/240 V) 100% E.D.
<b>Inlet Orifice:</b>	1,0 mm
<b>Operating Pressure:</b>	0 - 10 bar
<b>Terminal Box:</b>	3 pin plug with cable grip (DIN 43650 Form B) May be rotated 180°
<b>Cable Entry:</b>	Pg9
<b>Solenoid Coil:</b>	May be rotated at 90° intervals
<b>Manual Override:</b>	Standard, turn 180° anti-clockwise to operate, turn clockwise to release
<b>Protection Class:</b>	IP65 (DIN 40050)
<b>Typical Response Times:</b>	12 ms on 15 ms off

## Warning

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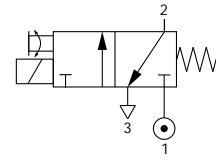
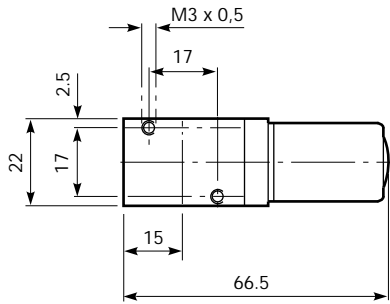
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**System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.**

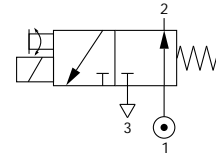
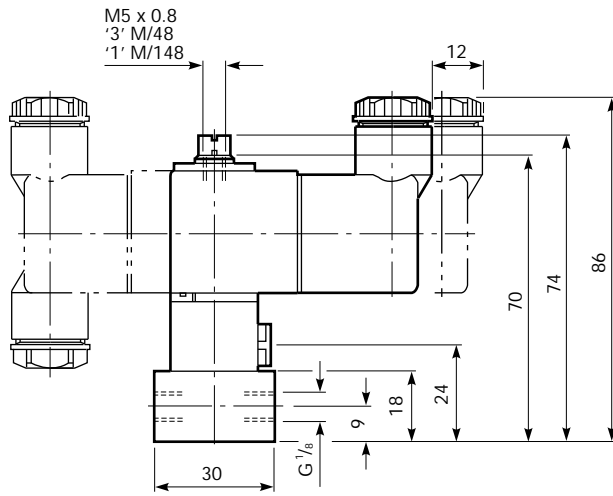
System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.



### Electrically Actuated Sub-base Mounted Valve



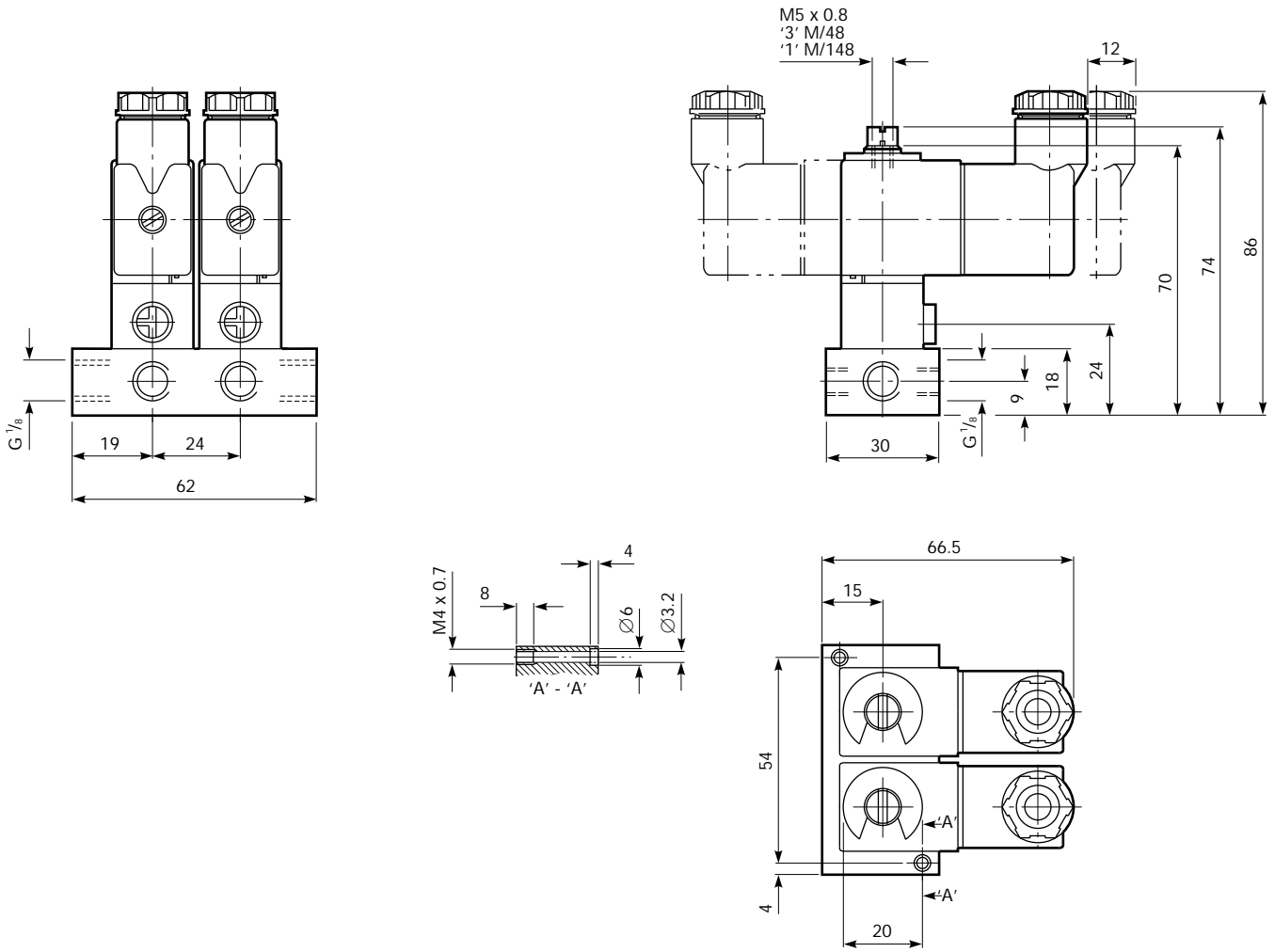
Model Number: **M/49**  
Type: 3/2 Normally closed



Model Number: **M/149**  
Type: 3/2 Normally open



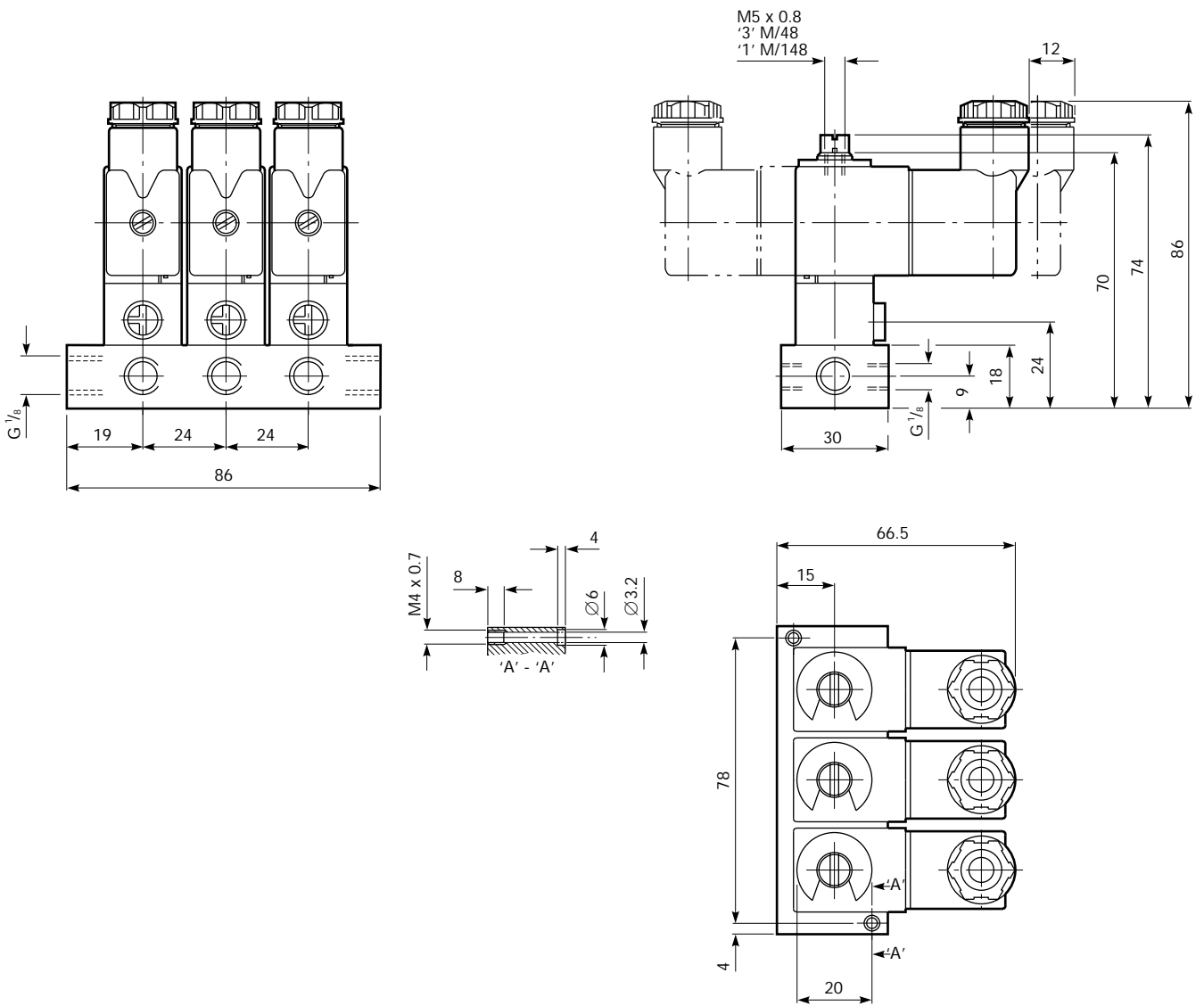
### Electrically Actuated Manifold Mounted Valve



Model Number: **DM/49/T2**  
Type: 3/2 Normally closed  
Number of valves on manifold: 2



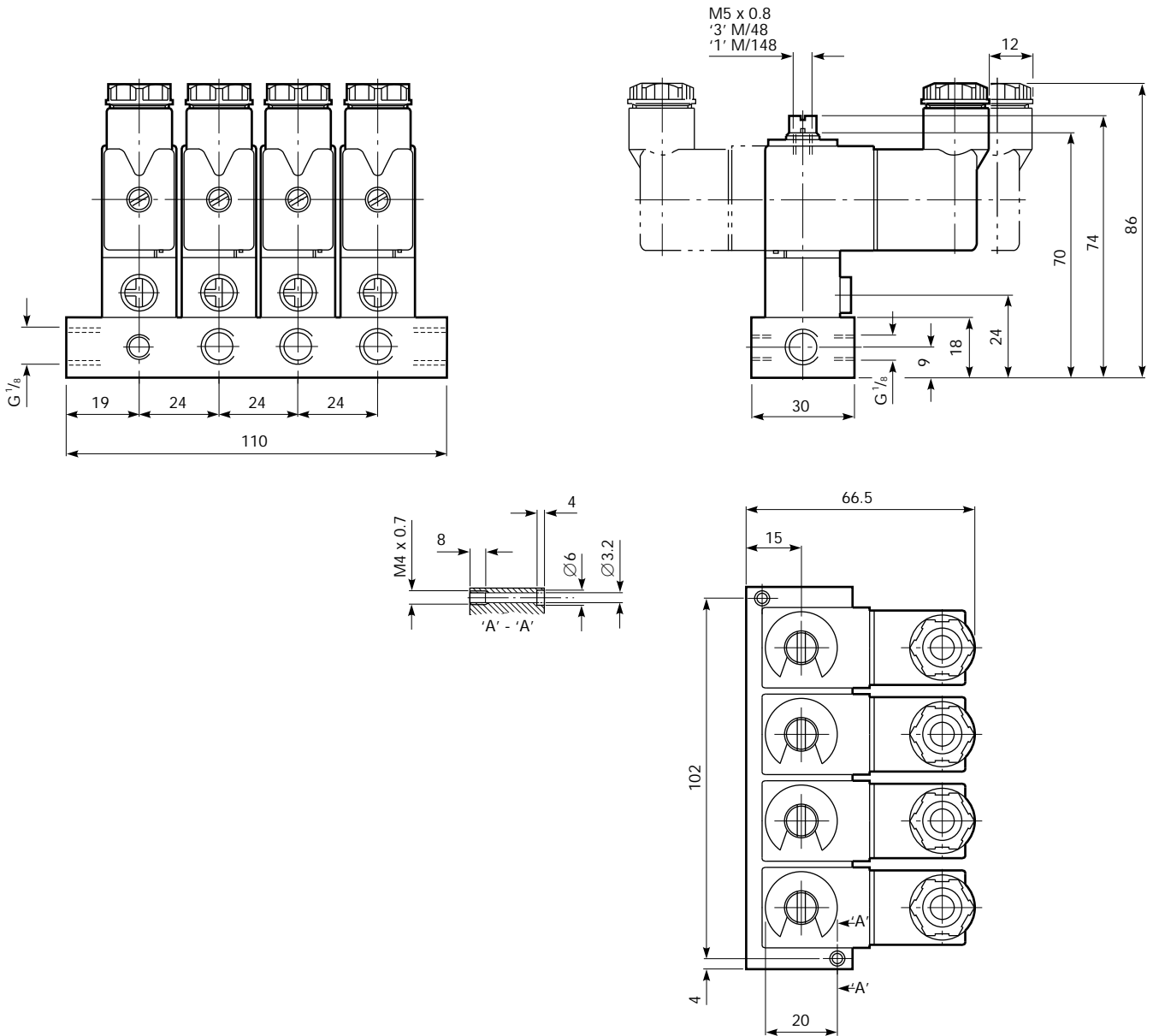
### Electrically Actuated Manifold Mounted Valve



Model Number: **DM/49/T3**  
 Type: 3/2 Normally closed  
 Number of valves on manifold: 3



## Electrically Actuated Manifold Mounted Valve



Model Number: **DM/49/T4**  
 Type: 3/2 Normally closed  
 Number of valves on manifold: 4

### Options and Accessories

#### Terminal Box with Lamp Indicator

Voltage range	Terminal box	Maximum current consumption of indicator circuit
12-24V d.c.	M/P24121/1*	35 mA
90-130V d.c.	M/P24121/2	15 mA
80-130V a.c.**	M/P24121/2	15 mA
150-230V a.c.**	M/P24121/3	15 mA

\*Reduced light intensity at 12V. \*\*Suitable for use at any frequency.

Lamp arrangement M/P24121/1, 1 blocking diode, 1 filament lamp.



Lamp arrangement M/P24121/2 and M/P24121/3, 1 glow lamp, 1 resistor.

