

**Magnetically Operated Switches
Reed Switches**

- **Robust units for wide variety of applications**
- **LED indicator on QM/32 models**
- **Suitable for use with our tie rod construction magnet piston cylinders and many other magnetic devices**

Technical Data

Operation:

- QM/31 Normally open
- QM/32 Normally open with LED (yellow)

Switching Voltage:

10 to 240 V a.c./d.c.

Switching Voltage Output:

Ub - 2 V (QM/32)

Switching Current (see graph overleaf):

- 2 A maximum QM/31
- 1 A maximum QM/32

Switching Power:

50 W/50VA maximum

Note: Switch life may be greatly reduced when switching reactive loads, e.g. solenoid, relay, and long cable runs. In such cases the fitment of appropriate voltage/current limiting devices should be considered.

Contact Resistance:

100 mΩ

Response Time:

3 ms

Operating Temperature:

-20°C to +80°C

Protection Rating:

IP 66 (DIN 40050)

Shock Resistance:

50 g (during 11 ms)

Vibration Resistance:

35 g (50 to 2000 Hz)

Cable Type:

PVC 2 x 0,75

Cable Length:

2, 5 or 10 m

Materials:

Plastic body

Alternative Switches:

See page N 4.3.021.02


Ordering Information

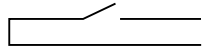
To order a reed switch with LED and 5 m cable length quote: QM/32/5

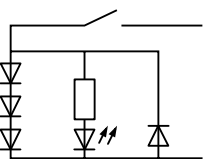
To order a reed switch with 2 m cable length quote: QM/31/2

Order mounting brackets separately.

Accessories

Plug-in connector See page N 4.3.021.02

QM/31  **brown blue**

QM/32  **+ brown blue (Output)**





Alternative Switches

Symbol	Switches (without LED)	Symbol	Switches (with LED)	Description
<p>brown blue</p>	TQM/31/*	<p>+ brown blue (Output)</p>	QM/32/P	High temperature (+150 °C), silicone cable 2 x 0,75 (2, 5 or 10 m length)
<p>black blue brown</p>	QM/31/C/*			Changeover, PVC cable 3 x 0,5 (5 m length) switching voltage 10 to 110 V a.c./175 V d.c., switching current 250 mA (see graph), switching power 5W/ 5 VA, response time 0,7 ms, contact resistance 100 mΩ, vibration resistance 20 g (during 11 ms)

* Insert cable length

Weights for Swiches and Plug-in Connector Cables

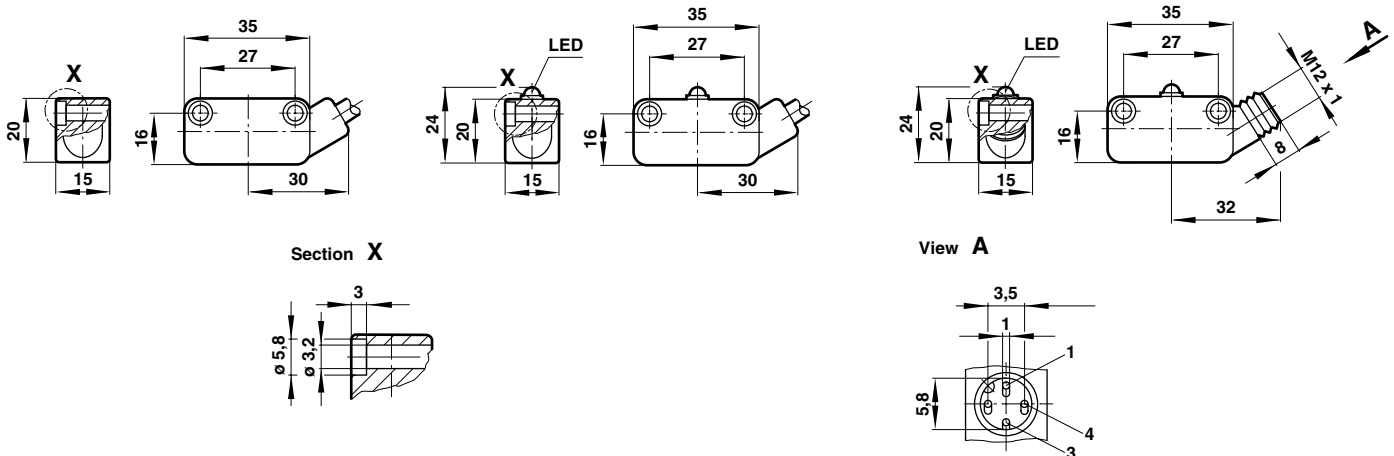
		 Plug-in Connector Cables		
Model	Weight (kg)	Model	Outer cover	Weight (kg)
QM/31/2	0,102	M/P34692/*	PVC	0,182
QM/32/2	0,108	M/P34594/*	Polyurethane	0,182
QM/32/P	0,015			

Basic Dimensions

QM/31

QM/32

QM/32/P



Warning

These products are intended for use in industrial control systems only. Do not use these products where voltage, current and temperatures can exceed those listed under 'Technical Data'.

Before using these products for non-industrial applications, life-support systems, or other applications not within published specifications, consult NORGREN.

Through misuse, age, or malfunction, components used in control systems can fail in various modes.

The system designer is warned to consider the failure modes of all component parts used in control systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

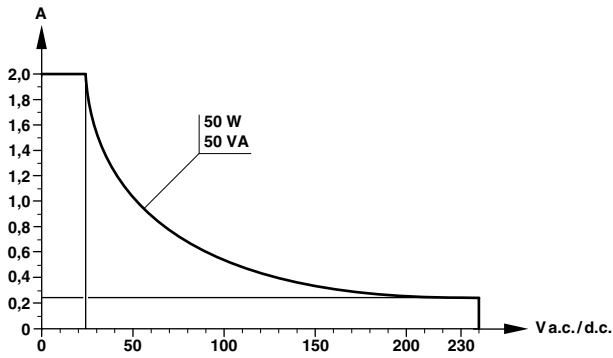
System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

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

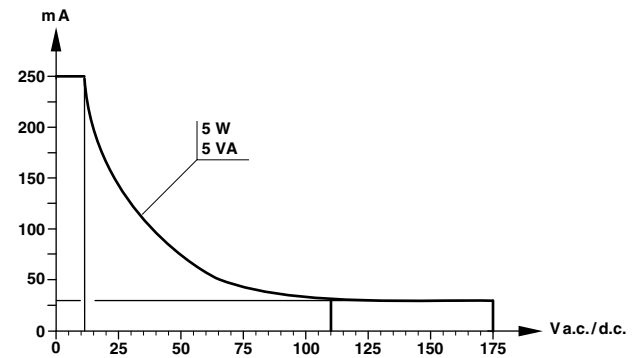


Switching current and switching voltage

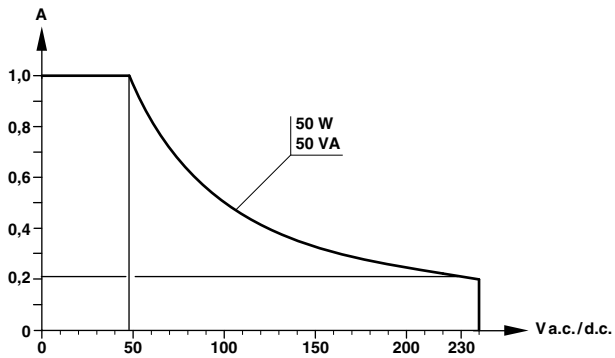
QM/31, TQM/31



QM/31/C



QM/32



**Magnetically Operated Switches
Solid State**

- **LED indicator as standard**
- **Suitable for use with our tie rod construction magnet piston cylinders and many other magnetic devices**
- **Simple, reliable switching with very fast response time**
- **Particularly suited for use where high levels of vibration are present**

Technical Data

Operation:

PNP open collector output with LED (yellow)

Switching Voltage (U_b):

10 to 30 V d.c.

Switching Voltage Output:

U_b - 2 V

Inducted Voltage:

2 V

Switching Current (see graph overleaf):

200 mA maximum

Quiescent Current Consumption:

15 mA

Switching Power:

6 W maximum.

Response Time:

0,2 ms

Operating Frequency:

1 kHz

Operating Temperature:

-20°C to +80°C

Protection Rating:

IP 66 (DIN 40050)

Cable Type:

PVC 3 x 0,5

Cable Length:

2 or 5 m

Materials:

Plastic body

Alternative Switches:

See page N 4.3.025.02


Ordering Information

To order a solid state (PNP) with 5 m cable length quote: QM/132/5

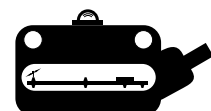
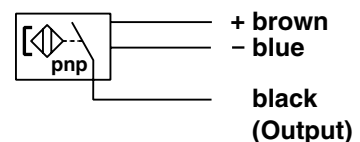
Order mounting brackets separately.

Accessories

Plug-in connector

See page

N 4.3.025.02





Alternative Switches

Symbol	Switches (with LED)	Description
	QM/132*/PU	Very flexible polyurethane cable 3 x 0,34 (5 m length)
	QM/132/P	Plug-in connector, cable see below
	QM/132/E*	Pulse stretcher (50 to 60 mm length), PVC cable 3 x 0,5 (5 m length)

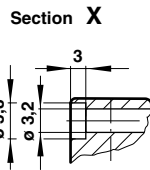
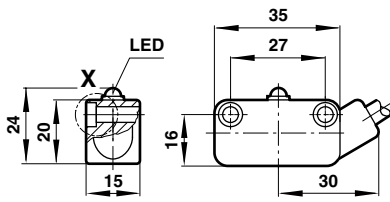
* Insert cable length

Weights for Swiches and Plug-in Connector Cables

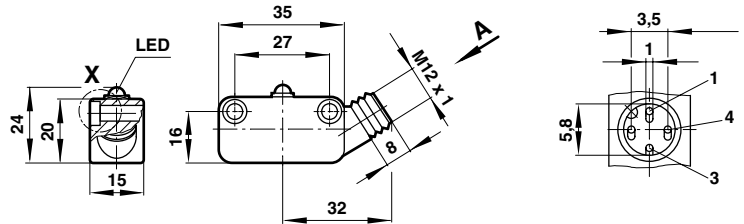
Plug-in Connector Cables				
Model	Weight (kg)	Model	Outer cover	Weight (kg)
QM/132/2	0,102	M/P34692/*	PVC	0,182
QM/132/P	0,015	M/P34594/*	Polyurethane	0,182

Basic Dimensions

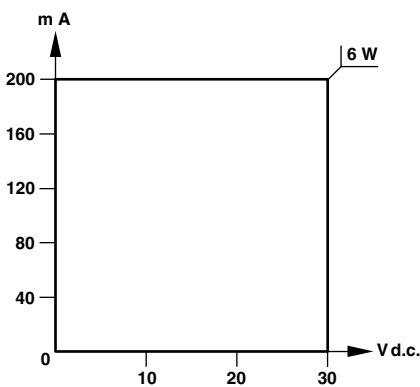
QM/132, QM/132*/PU, QM/132/E*



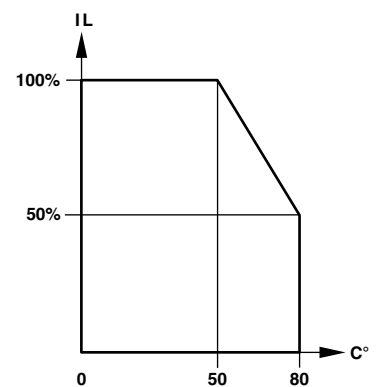
QM/132/P



Switching current and switching voltage



Temperature curve



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**Magnetically Operated Switches
Reed Switches**

- **Very neat, compact, cylindrical units**
- **LED indicator on QM/34 models**
- **Suitable for use with our ranges of magnet piston cylinders**

Technical Data
Operation:

QM/33 Normally open
 QM/34 Normally open with LED (yellow)

Switching Voltage:

10 to 240 V a.c./d.c. QM/33
 10 to 30 V d.c. QM/34

Switching Current (see graph overleaf):

1,5 A maximum QM/33
 1 A maximum QM/34

Switching Power:

50 W/50 VA maximum QM/33
 25 W maximum QM/34

Note: Switch life may be greatly reduced when switching reactive loads, e.g. solenoid, relay, and long cable runs. In such cases the fitment of appropriate voltage/current limiting devices should be considered.

Contact Resistance:

100 mΩ

Response Time:

2 ms QM/33
 0,5 ms QM/34

Operating Temperature:

-20°C to +80°C

Protection Rating:

IP 66 (DIN 40050)

Shock Resistance:

50 g (during 11 ms)

Vibration Resistance:

35 g (50 to 2000 Hz) QM/33
 10 g (10 to 2000 Hz) QM/34

Cable Type:

PVC 2 x 0,34 QM/33
 PVC 3 x 0,34 QM/34

Cable Length:

2, 5 or 10 m

Materials:

Plastic body

Alternative Switches:

See page N 4.3.051.02


Ordering Information

To order a reed switch with LED and 5 m cable length quote: QM/34/5

To order a reed switch with 2 m cable length quote: QM/33/2

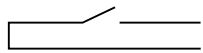
Order mounting brackets separately.

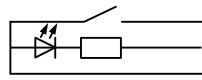
Accessories

Plug-in connector

See page

N 4.3.051.02

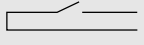
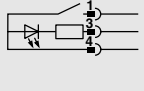
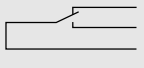
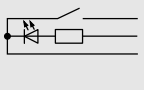
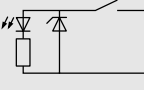
QM/33  **brown
blue**

QM/34  **+ brown
- blue
black
(Output)**



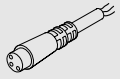
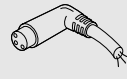


Alternative Switches

Symbol	Switches (without LED)	Symbol	Switches (with LED)	Description
	TQM/33/*			High temperature (+150 °C), silicone cable 2 x 0,34 (5 m length), switching voltage 10 to 30 V a.c. / 10 to 30 V d.c.
			QM/34/P	Plug in connector, cable see below
	QM/33/C/*			Changeover, PVC cable 3 X 0,34 (5 m length), switching voltage 10 to 110 V a.c./175 V d.c., switching current 250 mA, switching power 5 W/ 5 VA, response time 0,7 ms, contact resistance 100 mΩ, vibration resistance 20 g (during 11 ms)
			QM/34/N/* QM/34/N*/PU	Negative output, PVC cable 3 x 0,34 (2 or 5 m length) Very flexible polyurethane cable 3 x 0,34 (2 m length)
			QM/34/S/* QM/34/S*/PU	PVC cable 2 x 0,34 (2, 5 or 10 m length), switching voltage 10 to 240 V a.c./d.c., switching current 500 mA, switching power 50 W/ 50 VA, response time 2 ms Very flexible polyurethane cable 2 x 0,5 (2 m length)

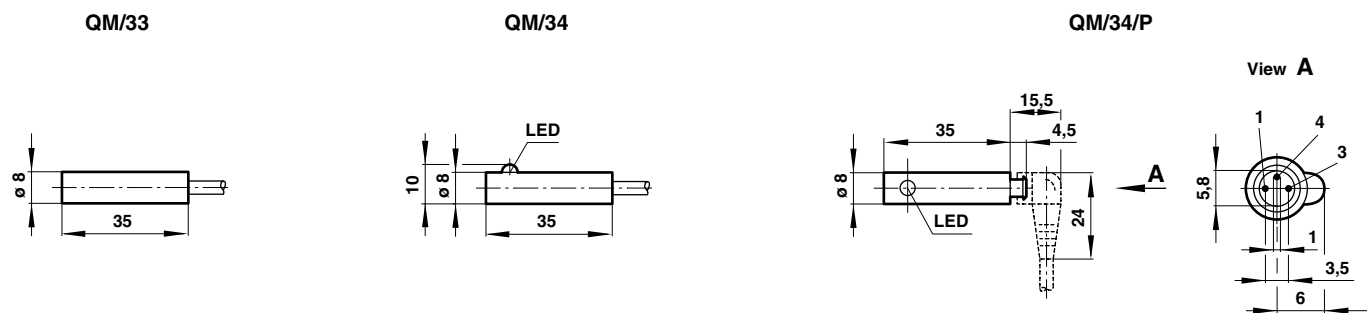
* Insert cable length

Weights for Switches and Plug-in Connector Cables

 Plug-in Connector Cables				 Plug-in Connector Cables			
Model	Weight (kg)	Model	Outer cover	Weight (kg)	Model	Outer cover	Weight (kg)
QM/33/2	0,053	M/P34614/*	PVC	0,150	M/P34615/*	PVC	0,156
QM/34/2	0,066	M/P34595/*	Polyurethane	0,130	M/P34596/*	Polyurethane	0,136
QM/34/P	0,004						

* Insert 5 m cable length

Basic Dimensions



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Switching current and switching voltage

