

PASSION TO PERFORM



INSTRUMENTATION PRODUCTS Float level switches, Level Gauges, Pressure Switches, Thermostatic Plugs, Pressure gauges, Flow Meters

HEN

Technical Information

Seal Material to suit different fluids

	Alkaline	Brake Fluid	Ammo- nia	Water	Air	Mineral Oil	Motor Oil	Diesel fuel	Petrol	Hydro- carbons	Haloge- nerated Solvent	Ethlene Glycol	Silicone	Max Ope- rating temp
Nitrile					\checkmark			\checkmark				\checkmark	\checkmark	100 ⁰ C
Viton				\checkmark	\checkmark			\checkmark	\checkmark	\checkmark	\checkmark		\checkmark	120 ⁰ C
EPDM	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark							\checkmark	\checkmark	120 ⁰ C
Neopro- ene				\checkmark	\checkmark							\checkmark	\checkmark	80°C

Dimensions

All dimensions are in mm unless otherwise stated.

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RL Series

Rapid Level Series Level Switches

Single float level switch Resistant to contaminants Variable point options SPDT contacts

Features:

- The required length can be obtained simply by cutting the steel rod, (this can be achieved using an ordinary pipe cutter). The switching point can also be varied by using a float with a through hole allowing the required liquid control point to be modified whenever necessary.
- Can be used for dirty liquids, water, petroleum, cutting oils. . Tolerates the presence of metal and ferrous particles, since the float does not hold a magnet and is integral with the rod.
- One float can operate just one Reed (min. or max. level), or two Reeds (min. and empty and extra max. level)
- Enhanced safety with the electrical part completely separate in the tank side and perfectly sealed by ultrasonic welding.
- Nylon-glass body is designed for strength and is highly resistant to chemicals. Ideal as an insulating container for the Reed contacts.
- Rods suitable for control of a max. measurement of 500 or 1000mm.
- Rod length cutting instructions supplied with each product
- The control rod can commutate the signal of 1 or 2 Reeds in sequence (with single or exchange contact).

Maximum Working Pressure 10Bar.

Connections Flange diameter 55 O/D

Operating Temperature

-20 to +80°C - Standard Delrin Float -20 to +120°C - Stainless steel float (Optional)

Output ON/OFF



Specification Glass filled nylon Stainless steel rod IP65 rating Connector to DIN 43650 Delrin float with silicone security joint LED Option available

Fluid Compatibility

Mineral Oils Synthetic Oils Phosphate Ethers Water-based Emulsions Water Glycols * For other fluids, please consult MP Filtri UK Ltd



On request the float can be supplied with through hole and therefore be positioned in the required position without having to cut the rod (which can therefore be as long as the height of the tank).

If necessary, the liquid control point can be modfied as required by simply moving the float. Available on request with AISI 316 stop



MPAUTRI



RL-G2 Series

Double Float Rapid Level Float Switch Series

Two control points Resistant to contaminants Variable points SPST or SPDT contacts

Features:

- The RL/G2 range has a head which holds two control rods and two floats.
- Each control rod can communicate the signal of 1 or 2 reeds, either exchange or single signal. Therefore this double roded control switch can communicate up to 4 signals
- Flexibility to choose the most suitable system for each rod.
- In case of excessively dense liquids the two floats can be supplied independently from each other to prevent rod 1 from undergoing friction with the float of rod 2.
- The minimum distance between the two points to be controlled is 100mm.

Maximum Working Pressure 10Bar.

Connections Flange diameter 55, 11/4" BSP Thread

Operating Temperature -20 to +80°C - Delrin Float -20 to +120°C - Stainless Steel Float

Output ON/OFF







How to order

Order ex	ample		RL		F3	S1	S1	
1. Rapi	id Level Float Switches							
RL-G1=	= One Float Type							
RL-G2=	= Two Float type							
RL-L=	Horizontal Type Single Float Only							
2. Serie	es							
=	Normal Series							
R=	Strengthened series for turbulent fluids							
3. Mou	nting							
F3=	Flange Connection Type*: RL-G1, RL-G2, RL-L							
1=	1": BSP RL-G1,							
11/4=	11/4" BSP: RL-GL							
A Wiri	ng Scheme Lower Float							
S1=	Closed Contacts in the absence of fluid	L		 				
S1A=	Open contacts in the absence of fluids							
S2=	Open or closed contacts in the absence or presence							
		-						
5. Wiri	ng Scheme Upper Float (RL-GL2 Only)							
S1=	Closed Contacts in the presence of fluid							
S1A=	Open contacts in the presence of fluid							
S2=	Open or closed contacts in the absence or presence of fluid							
	or norm							
6. Floa	t Length							
=	500mm							
1000=	1000mm	-						

LED Visual Light Indicator

LED1 Supplied sepearately and is easily installed in conjunction with the DIN connector - AC/DC 24V

ORDER EXAMPLE

RL-G2 - R - F3 - S1A - S1 Two float levels with strengthing three-hole flange wiring scheme, S1A lower float and wiring scheme, S1for upper float length - 500mm



RL-G1 Series

Rapid Level Series Level Switches

Visual float levels Resistant to contaminants Variable level

Features:

- The easiest way to visually monitor liquid level without having to drill the side of the tank.
- The float pushes the rod with an indicator at the top which clearly and accurately shows the level of the liquid.
- Rod protector supplied as standard.

Installation:

Adjustment is quick and practical:

- Remove the float that creates a pressure seal with a silicone sheath (version with NBR float)
- Cut the rod and centring tube with a pipe cutter
- Refit the float or it can be ordered already to size.

Maximum Working Pressure 10Bar.

Connections Flange diameter 55, 1"1/4 BSP,

Operating Temperature -20 to +80°C

Output Only visual

Installation

We recommend a 100 hole on the top face of the tank. Remove the float and reassemble it during the switch installation.

How to order

RL-GL-V1-1 1/4 1 1/4" BSP Flange

RL-G1-V-F3 3 Bolt Flange

Delrin Float as standard









LV Series

Visual level indicator with both minimum and maximum level detection

100mm to 4m lengths available Aluminium 'U' Protection One product, two functions One item to fit Safe working with the electrical part completely separated from the fluid and insulated from the outside.

Features:

- Allows the liquid level to be checked in a clear and precise way at any time.
- The level gauges can be equipped with a tap that stops the flow of liquid from the tank to the gauge.
- C/C distances of 127 ÷ 500 mm are fully interchangable with all major level gauges.
- 'U' protection screen is normally fitted in order to ensure visibility on the front part of the level gauge, but if necessary it can be turned 90° to deliver visibility on the right or left.
- Minimum level signal which can be Normally Open, Normally Closed, or Exchange contacts on request.

Maximum Working Pressure 10Bar

Maximum Tightening Torque 33NM



Electrical Connections

LV/E1	SPST - N.C. Without Fluid	SPST - NC With Fluid	SPDT
Electrical characteristics	12	12	32 1
Commutable Power (DC)	20W	20W	20W
Commutable Power (AC)		20VA	20VA
Strength of Current (AC and DC)	1A	1A	1A
Commutable Voltage	200V	150V	150V
Temp Range - Acrylic Tube	-20 to +70°C	-20 to +70°C	-20 to +70°C
Temp Range - Pyrex Tube	-20 to +100°C	-20 to +100°C	-20 to +100°C





How to Order

Example 1: LV/E1-500-M12-Exchange Visual Level with minimum level signal and with bolt centres of 500mm, M12 bolts and exchange contacts

Example 2: LV/E2-127-M10

Visual Level with minimum and maximum level signal and with bolt centres of 127mm, M10bolts

LV/M

Special Fluid Level Gauge - All Fluid Capability

Different polymeric materials used for the transparent tube, blocks and 0-ring Stainless steel AISI 316 in the metallic parts in contact with

the liquid

Features:

- Constant and continuous indication of the level of the liquid
- Protected from shocks by using a profle 'U' anodized aluminium
- 3 Centres option 76, 127, and 254mm

Maximum Working Pressure 10Bar

Maximum Tightening Torque 33NM





IEG

Single and Double Float Level Switches

Fixed length Lengths to one metre Flange and BSP options Temperature and explosion proof options Can be supplied Normally Open, Normally Closed or Exchange contacts **Contact MP Filtri UK Ltd for further details**



How to Order

LV/M Level Gauges and IEG Level Gauges

Please contact MP Filtri UK Ltd for further details.



FLU/P Series

Visual Flowmeters

Flowmeter for liquids Mineral oil or water as standard BSP threads

Features:

- Flowmeter offers exceptional visibility on each side and a clear and easy-to-read scale.
- Cone design ensures accuracy of measurement
- Threaded connection head: anodized aluminum.
- Body material: Grilamid™ TR55 (PA Transparent) high resistance.
- 0-Ring: NBR; Contact MP Filtri for options

Maximum Working Pressure 25Bar.



Please contact MP Filtri UK for more information

Liquid	F	Flowrate Ltrs/Min	Max Pressure Bar	Material	A	В	С	Temp Range
	1/2" BSP	120	30	Orana and	40x40	150	57	-20°C to +80°C
Water	3/4" BSP	536	25	Shutter:	55x55	160	72	-20°C to +80°C
	1 1/4" BSP	2095	25	1.00	55x55	160	72	-20°C to +80°C
	1/2" BSP	116	116 30		40x40	150	57	-20°C to +80°C
Oil	3/4" BSP	530	25	Shutter: Nickel-plated	55x55	160	72	-20°C to +80°C
	1 1/4" BSP	2080	25	Brass	55x55	160	72	-20°C to +80°C

FLU/P



How to order

Order e	xample		FLU/P	3	S
1. Flov	v Meter for Liquid				
FLU/P=	= Flow Meter				
2. Con	nection				
3=	Water - 1/2" BSP	_			
5=	Water - 3/4" BSP	-			
7=	Water - 1 1/4" BSP	-			
11=	0il - 1/2" BSP	_			
13=	0il- 3/4" BSP				
15=	0il - 1 1/4" BSP				
3. Flov	vrate				
S=	Standard				

C= Custom (Min-Max)





INSTRUMENTATION

Technical data

FLU/P Series

Flow Switches

Flow Switch for liquids BSP threads Mineral oil or water as standard Two adjustable electrical contacts

Features:

- Flow Switch offers exceptional visibility on each side and a clear and easy-to-read scale.
- Cone design ensures accuracy of measurement
- FLU/P series can be equipped with 1 or 2 alarm sensors, giving a signal in the presence or absence of the predetermined flowrate
- Threaded connection head: anodized aluminum.
- Body material: Grilamid™ TR55 (PA Transparent) high resistance.
- O-Ring: NBR; Contact MP Filtri UK for more options.
- Electric Sensors: SPST, SPDT

Maximum Working Pressure 25Bar.

FLU/P





Please contact MP Filtri UK for more information and for other size and fluid options.

Liquid	F	Flowrate Ltrs/Min	Max Pressure Bar	Material	A	В	С	Temp Range
				Orana and				
Water	3/4" BSP	524	25	Shutter:	55x55	160	72	-20°C to +80°C
	1 1/4" BSP	2095	25	1.00	55x55	160	72	-20°C to +80°C
				Cone and				
Oil	3/4" BSP	520	25	Shutter: Nickel-plated	55x55	160	72	-20°C to +80°C
	1 1/4" BSP	2080	25	Brass	55x55	160	72	-20°C to +80°C

How to order

Ordor o	vamila		FLU/P	0	F3	S1	S1] [0)	0
UIUCI C	, vanihie		1.2011						Ť		
1. Flov	v Switches										
FLU/P:	= Flow Switch										
2. Con	nection										
4=	Water 3/4" BSP										
7=	Water 1 1/4" BSP										
12=	Oil 3/4" BSP										
15=	Oil 1 1/4" BSP										
3. Flo v	wrate										
S=	Standard										
A Son	core										
1-	1 Sensor										
2-	2 Sensor										
2-	2 361301										
5. Тур	e of Contact Sensor S1										
A=	SPST CH IN ABSENCE										
B=	SPST CH IN PRESENCE										
C=	SPDT	-									
D=	SPST CH IN ABSENCE GREEN LED	-									
E=	SPST CH IN ABSENCE RED LED	-									
F=	SPST CH IN PRESENCE GREEN LED	-									
G=	SPST CH IN PRESENCE RED LED										
	ala Langth Canaar C1										
0. Ual	Standard										
0-	Standard	-									
7	a of Dombook Compose CO										
7. τyp ∧_											
A=		-									
D= C_		-									
<u>U=</u>		-									
		-									
C= C_		-									
Г= С-		-									
<u>u=</u>		-									
8. Ca	ble Length Sensor S2										
S=	Standard										L

IP/IPN Series

Piston-operated Pressure Switches

Max working pressure: 6-630 bar Available as standard in two sizes BSP and CETOP adaptors available

Features:

- A range of piston-operated fixed differential, electro-hydraulic pressure switches with exchange electrical contacts.
- Mountable in any direction
- DIN 43650 connector as standard
- Non-standard switches available on request for use with special fluids and high-temperature operations
- When pre-set pressure is achieved, actuates an electrical microswitch
- Exceptional stability and repeatability (±1%)

Installation:

- The pressure switches type IPH can be mounted in any position
- Fluid to be used: hydraulic oil in compliance with DIN 51524 rules, viscosity between 30 and 100 mm2/s (cSt) at 40°C
- Recommended filtration of 25µ absolute to Beta 1000
- Hydraulic fluid temperature: from -20° to +75°C



Voltage	125AC 250AC 30DC			150DC				
Max Current (resistive load)	7 Amp 5 Amp 5 Amp			0.2 Amp				
Max Current (Inductive Load)	4 Amp	2 Amp	3 Amp	0.02 Amp				
Connection Frequency	Max 120 cycles per minute							
Protection	IP-65							
Direct Current with inductive load								
Contact Resistence		15	mΩ					

How to Order

IP - ***/*

IA = electric contacts type A IE = electric contacts type E

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Pressure Setting: 035=6-35bar 150=12-150bar 250=15-250bar 350=30-350bar 630=50-630bar

Pressure Switch





Switch Pressure Differential Graphs



Adaptors





Nº4 M5

IPH Series

Piston-operated Pressure Switches

Max working pressure: 6-630 bar Available as standard in two sizes BSP and CETOP adaptors available

Features:

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Voltage	125AC	250AC	30DC	150DC					
Max Current (resistive load)	7 Amp	5 Amp	5 Amp	0.2 Amp					
Max Current (Inductive Load)	4 Amp	2 Amp	3 Amp	0.02 Amp					
Connection Frequency		Max 120 cycles per minute							
Protection		IP-	65						
Direct Current with inductive load	ent with inductive It is suggested to provide an arching contact								
Contact Resistence 15 mΩ									

How to Order

IPH- ***/*

IA = electric contacts type A IE = electric contacts type E

24

Pressure Setting: 035=6-35bar 150=12-150bar 250=15-250bar 350=30-350bar 630=50-630bar

Pressure Switch



Cross-section



Connections



Symbol

Flange Interface



Switch Pressure Differential Graphs



Adaptors





27N

Diaphragm Pressure Switch

Electric Contacts: Silver

Electrical Condition: SPDT (exchange contact)

Electrical Characteristics: 4(2)A / 24 Vdc 6(2)A / 250 Vac

Max Fluid Temperature: (depending on diaphragm) 80°C to 120°C

Mechanical Working Life: 10⁶ operations

Max Over Pressure Limit: Zinc plated steel - 300 bar Brass - 80 bar

Max Working Pressure: Zinc plated steel - 300 bar Brass - 40 bar

Protection Rating: IP65

Hysteresis: 10-50% adjustable (Avg 30%)

Weight: 130g

How to Order See Page 30





28N

Piston Pressure Switch

Electric Contacts: Silver

Electrical Condition: SPDT (exchange contact)

Electrical Characteristics: 4(2)A / 24 Vdc 6(2)A / 250 Vac

Max Fluid Temperature: 80°C

Mechanical Working Life: 10⁶ operations

Max Over Pressure Limit: 800bar

Max Working Pressure: 450bar

Protection Rating: IP65

Hysteresis: 30-50% adjustable (Avg 40%)

Weight: 140g

How to Order See Page 30







How to order

Order e	kample		27	7N	2	0	1	1	1	
							Γ			
1 Pres	sure switch									
27N=	Diaphragm Pressure Switch]						
28N=	Piston Pressure Switch	-								
		-								
2. Con	nector									
2=	Hirschmann connector				_					
		-								
3 Mat	erial Case									
0=	Zinc-plated Steel case									
1=	Brass (27N Diaphragm Pressure Switch only)	-								
2=	Stainless Steel AISI 316* (Standard 1/4" BSP)	-								
3=	Stainless Steel AISI 303* (Standard 1/4" BSP)	-								
4. Thre	ads (X3)				 	 				
<u> =</u>	1/8" BPST - 10mm (L1)									
2=	1/4" BSPI - 12mm (L1)	-								
3=	M10x1taper - 10mm (L1)	-								
6=	1/4" BSP - 12mm (L1)	-								
* ATEX	Version also available - Please contact MP Filtri UK									
5. Diar	hragms / Seals									
1=	NBR									
2=	FKM (27N Diaphragm Pressure Switch only)									
3=	EPDM CH (27N Diaphragm Pressure Switch only)									
4=	CR (27N Diaphragm Pressure Switch only)	-								
5=	Silicone (27N Diaphragm Pressure Switch only)	-								
6=	HNBR (27N Diaphragm Pressure Switch only)	-								
		-								
5. Pre	ssure Setting Range									

	Setting range bar	Tolerance at 20°C	Model
1=	0-3 - 1.5	±0.2	27N
2=	1-5	±0.3	27N
3=	1-10	±0.5	27N
4=	10-50	±2	27N
5=	10-100	±3	27N
6=	50-200	±2-10	28N
7=	100-400	±5-15	28N

AS28N

Pressure Switches

For Mobile Applications IP67 Protection Rating

Features:

Connector: Deutsch DT04-3P with W-3P Pin Deutsch 1060-16-0122 Setting: TBC Tolerance to 20°C: ±5bar Maximum Overpress Limit: 800bar Maximum Fluid Temperature: 80°C Mechanical Working Life: 10⁵ Operations Switched Voltage: 24Vdc Maximum Switched Current: 2 (1) A Action Type: 1B Pollution Situation: Normal

Ordering Example: Please contact MP Filtri UK for more information.



Electric connections (without pressure)



Wiring diagram



TDP53

Thermostatic Plugs

For Mobile and Industrial Fluid Applications Temperature trip control - various settings Full range of thread sizes Aluminium housing Suitable for: System temperature control, Pump and motor overheat protection, Oil tank temperature control, Cold start protection

Features:

Case: OT58 Brass/Aluminium Differential: 10% Intervention tolerance: ±5% Voltage: 12V-Current 10A, 24V-Current 10A, 120V-Current 15A, 240V-Current 10A Number of Cycles: 100,000 Temperature Range Rate: 1-2% per minute Minimum Current: 200 mA

Din43650 Connector Standard

Ordering Options:

Temperature Trips: 40°C, 50°C, 60°C,70°C,80°C,90°C Sizes: 1/4" BSP, 3/8" BSP, 1/2" BSP, 3/4" BSP Contacts: N.O. - Normally Open N.C. - Normally Closed

How to Order

TDP53 - 3/4 - 70°C - N.O. 3/4" BSP Threaded Plug, 70°C Temperature Limit, with Normally Open Contacts.



TT4

Temperature transmitter

For temperature applications Proportional output signal Choice of Nickle plated or Stainless Steel AlSI316L body Available with an extension to intercept fluid in the tank Special electrical connection options Choice of measurement pressure ranges M3 and M12 models available

Features:

Working temperature: 0°C to +100°C Non linearity + hysteresis: <5% of the end of the scale at 20°C Zero Thermic Drift: <3% of the end of the scale from 0°C to +70°C Weight: 0.07kg Body: Nickle plated brass Wetted parts in nickle plated brass and integral seal in NBR Stainless Steel AISI316L body (TT4X)

Electrics:

Power Supply standard executions: $4-20\text{mA} \rightarrow 2 \text{ wires: from 12 to 24 VDC}$ $0-10 \text{ V} \rightarrow 3 \text{ wires: from 12 to 24 VDC}$ Electric connection: DIN43650(M3) Electric connection: IEC60947-5-2 (M12) Electric protection: CEI EN 60529, IP65 (M3 and M12)

Please contact MP Filtri UK for options and information

How to Order TT4 -200-2-M3



Туре	Temperature measurement range	Pressure max	Hydraulic connection	Execution type	Electric Connection	Power Supply
TT4	0 - 100° C	200 bar	1 - 1/2" BSP-M 2 - 3/4" BSP-M 3 - M22x1.5-M	0-12V execution If omitted it means standard execution is: 4-20mA	M3 Connector 30x30 connector M12 Connector Connection M12x1 (Female connector excluded)	12V Power Supply 10- 15 V If omitted it means standard execution is 15-28VDC



MG Series

Pressure Gauges

Glycerine Filled 0-600 Bar ranges Dual Scale (Bar/PSI)

Features: Accuracy: EN837 - Class 1.6 to 2.5 DSMG B40 - 1 - Grade B

Sizes: 63mm (1/4" BSP) 100mm (1/2"BSP)

Operating Temperature: $\pm 60^{\circ}C$

Materials:

Case: Stainless Steel - 304 Tube and connection: Stainless Steel - 304 Movement: Brass Window: Glass



Dimensions - MG63 Size





TYPE	А	В	С	D	E	F	G	Н		CH	WEIGHT
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	g
MGR 63	63	84.5	37	53	1/4"	12	12	-	-	14	300
MGF 63	63	58.5	69.5	24	` 1/4"	12	75	3.6	85	14	300
MGS 63	63	60	37	24	1/4"	12	68	-	-	14	300





Dimensions - Note: 100mm gauges- 60 bar and under are 3/8" BSP connection





TYPE	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	l mm	CH mm	WEIGHT g
MGR 100	100	137	49	87	1/2"	20	135	-	-	22	1200
MGF 100	100	75.5	49	30	`1/2"	20	116	4,8	132	22	1200
MGS 100	100	77	50	30	1/2"	20	100	-	-	22	1200

How to order

Order e	xample		MG	R	63	G	10
1. Pressure Gauge							
MG=	Glycerine-filled pressure gauge						
2. Moi	Inting						
R=	Radial						
F=	Flange						
S=	Bracket	-					
3. Size							
63=	63 Ø						
100=	100 Ø						
4. Connection							
G=	BSP Thread						
5. Full	Scale						
10=	10, 25, 60, 100, 160, 250, 400 and 600						



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