

Trouble shouting

If anything is missing or not working anymore or you need extra options or spares please let us know. We do need our production (job reference) number so we can check what you need. The job. ref. / order nr. is always on the tagplate.

If you need more info or help please let us know. We are happy to assist you.

Space for your remarks:

Process positions : Side / Side
 Side / Top
 Top / Bottom
 Side / Bottom
 Top mounted

Tag Nr. :
 Quantity :
 Measuring length : C. to C.mm

PROCESS CONDITIONS

Medium :
 Density (kg/m³) : min max
 Pressure : min max
 Temperature : min max
 Viscosity : < 80 cst orcst

DESIGN

Flanged Couplings
 Thread Butt-weld

Material : SS 316L or
 Connection size :
 Pressure rating : Sealing surface
 Drain (bottom/side) : G...../..... NPT / flange
 Vent : Closed, G...../..... NPT / flange
 Gasket material : Std. / SS spiral wound / graphite /

CERTIFICATES

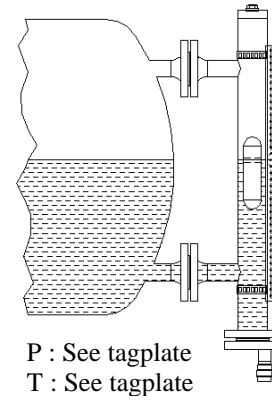
Ship approvals : GL / LRS / BV
 Material cert. : EN 10204 3.1
 Welding proc. : WPS / PQR
 X-ray : No / 10 / 100%
 Explosion : ATEX / IECEx
 Pressure test : HADRO /

OPTIONS

Float malfunction : Yes / No optical indication
 Switches : STD / Exi / Exd
 Scale / ruler : Cm / 0-100% / acc. tank content
 Level transmitter : 4-20 mA / Exi / Exd
 Frost protection : Yes / No electric, steam, oil
 Insulation : Cold / Heat resistant

POINTER[®] magnetic level gauge

Type: D- ; L- ; R-



P : See tagplate
 T : See tagplate

1 General

- Only authorised personal may operate the level gauge.
- Magnetic level gauges are measuring instruments, please handle with care.
- Please check if your magnetic level gauge is the one you ordered. Check C to C, process flange, density float etc. Float, switches, level transmitter can be packed separately, but together in one box.
- The level gauge can be used for liquids and for condensate gasses if they don't harm the material (SS316 and/or Titanium).
- Since there is no self heating of the equipment, the temperature class is determined by the max. process temperature and the max. surface temperature T is equal to the process temperature.

2 Mounting float

- Check if the float is not damaged and remove the metal parts (if any)
- Mount the float with top side up into the measuring chamber through the bottom stop. Change if necessary the gasket. If the float has to be installed by the top flange, the float has a lifting hook. Slowly bring down the float by the lifting hook to prevent damaging the float.
- Bring the float into the measuring chamber to its max. position and back to its starting position for the right moving of the flaps cq. switches.**

3 Mounting level gauge

- Fasten the magnetic level gauge. Turn, if necessary, the flaps into the position you want.
- Mount the level switches on the desired level, do the same with the level transmitter, if these were ordered.
- If the surface temp. is high the level gauge should be insulated to prevent the danger of ignition and burn. For the function of the level gauge insulation is not a problem, do not insulate switches or the reedchain transmitter.

4 Pressure test

If the magnetic level gauge must be pressurized as a part of an installation, please do **not** do this with the float. **(float does not have any safety factor)**

5 Start-up

- Purge the gauge if an explosive mixture can be expected.
- Open top valve (gas side), vent if necessary.
- Check if the connections of the level gauge are closed (flange connections and plugs).
- Open bottom process valve (liquid side) slowly.
- Level gauge is in operation.
- Do not use the drain as bleedvalve.

6 Shut down (out of operation)

- Purge the gauge if an explosive mixture can be expected.
- Close bottom valve (liquid side).
- Close top valve (gas side).
- Open vent slowly (please take care of the possibility of an explosive air-gas mixture).
- Open drain (please take care for jet of liquid, hot or explosive liquids).
- Level gauge is out of operation.

7 Maintenance

Maintenance is only necessary if the liquid is sticky, clean the measuring chamber periodically. (special types are available). Lifetime of flaps is limited if temperature > 105°C for Polycarbonate or > 160°C for Aluminium or SS 316 rails. Always use original products by replacements.

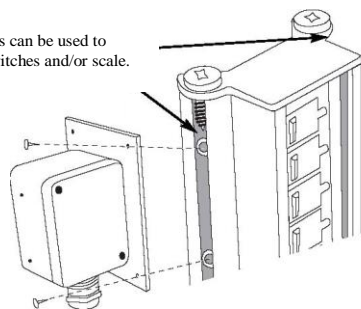
Only clean the level gauge and transmitter/switches etc. with a wet cloth to avoid static electricity and or shocks.

For ATEX:

II 1/2G c IIC T1..T6
 II 1D T xx°C
 KEMA 10ATEX0199X
CE 0620
 www.hadro.nl
 NL-2841MC270

The temperature class is limited by the max. surface temp. which is the same as the max. operating temp.

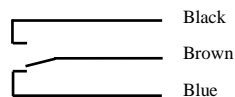
Both sides can be used to mount switches and/or scale.



Reedswitches

Type HLS-15

24VAC/DC 2,5A 60W 60VA
230VAC/DC 250mA 60W 60VA

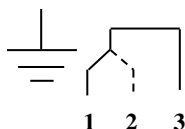


T process -25°C to +95°C



Type LMS-Ha2

24VAC/DC 0,8A 60W 40VA
230VAC/DC 0,8A 60W 40VA

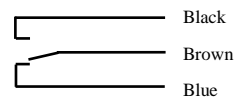


T process -40°C to +180°C



Type HLS-25i

Ui= 30V; Li= 250mA ; Pi= 1,3W

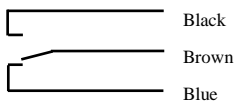


II 1 GD Exia IIC T6 Ga
II 1 GD Exia IIIC T85°C IP66/67
Da
Ta -20°C to +80°C
T process -40°C to +100°C



Type HLS-25d

24VDC 2,5A 60W
110VAC 540mA 60W
230VAC 250mA 60W



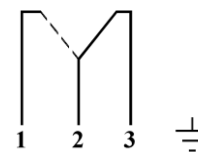
II 2 GD Exd IIC T6 Gb
II 2 GD Ex tb IIIC T85°C Db
Ta -20°C to +70°C
T process -40°C to +100°C



Micro switches

Type LMS-Ha1

10 - 230VAC/DC 2A 40W 100VA

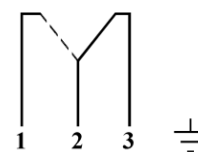


T process -50°C to +380°C

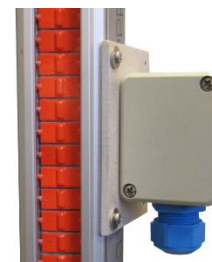


Type LMS-Ha1E

Ui= 30V; Li= 500mA ; Pi= 20W

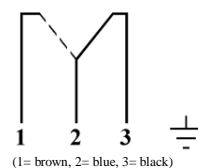


T process -50°C to +380°C
Exi "Simple apparatus"



Type LMS-HaD

10 - 230VAC/DC 2A 40W 100VA



(1= brown, 2= blue, 3= black)



II 2 G Ex d IIC T3..T4 Gb
II 2 D Ex tb IIIC T135°C..T200°C Db
Ta -20°C to +60°C
T process -40°C to +190°C

ATEX : 15ATEX0059X
IECEX : DEK 15.0040X



Max. Process temp.	Temp. class (EPL Gb)	Max. surface temp. (EPL Db)
120 °C	T4	T135°C
160 °C	T3	T200°C
190 °C (glas fiber insulation)	T3	T200°C

Reedchain transmitter

Type P-05, P-10, P-25 (GP, Exi or Exd)

If necessary mount in transmitter on the level gauge. The 4 mA setting is marked on the chain and should correspond with the lowest point of the bottom process connection.

Supply 12 – 30VDC

Only the terminals + and – should be used for wiring up the device. The other terminals (3,4,5 and 6) are for factory use only.

Ta -40°C to +60°C
T process -50°C to +350°C

For Exi:

II 1 G Ex ia IIC T4...T6 Ga
II 1 D Ex ia IIIC Da

Ui=30V; Li=120mA ; Pi=0.84W;
Ci=1nF; Li=10µH

For Exd:

II 2G Ex db IIC T5...T1 Gb
II 2D Ex tb IIIC T100°...T350°C Db

ATEX : KIWA 15ATEX0049 X
IECEX : KIWA 15.0026X



Process temp.	Temp. class (EPL Gb)	Max. surface temp. (EPL Db)
-50 to -25°C	1) T5	T100°C
-24 to +135°C	T4	T135°C
+136 to +160°C	T3	T160°C
+161 to +200°C	2) T3	T200°C
+201 to +250°C	3) T2	T250°C
+251 to +300°C	4) T2	T300°C
+301 to +350°C	4) T1	T350°C

Protections between process pipe and reedchain:

- 1) 1x Armaflex or PER
- 2) 1 layer of glass fiber
- 3) 2 layers of glass fiber
- 4) Fully insulated with 2 layers of glass fiber and shielding plate