



Level



Pressure



Flow



Temperature



Liquid
Analysis



Registration



Systems
Components



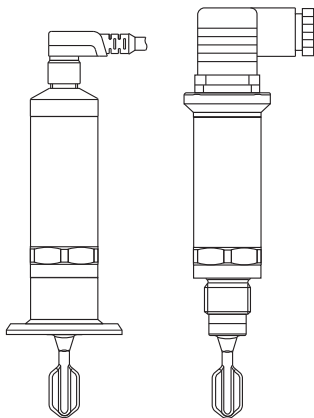
Services



Solutions

简明操作指南

Liquiphant T FTL20H



限位开关

KA00214F/28/zh/07.04
71122141

Endress+Hauser 

People for Process Automation

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小心!

= 禁止;

导致不正确操作或损坏。

安全指南

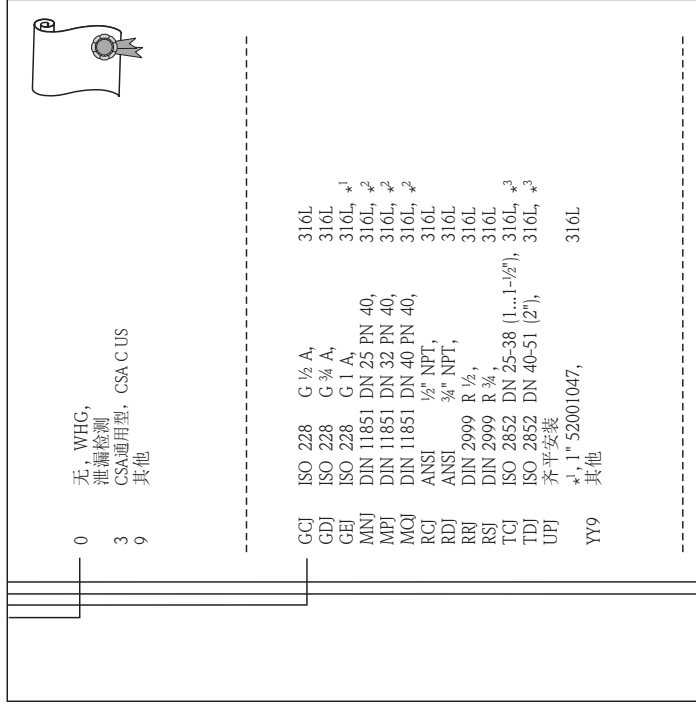
Liquiphant T FTL20H 设计用于液体的限位检测。

使用不当可能会导致应用危险。

仅允许经授权的合格专业人员进行 Liquiphant T FTL20H 的安装、电气连接、调试、操作和维护，必须严格遵守《操作手册》、相关标准、法律要求和证书 (取决于实际应用) 中的要求。

在设备附近安装易于操作的电源开关。

标识电源开关方便设备通断。



1 2 3 9	19...253 V AC, 两线制连接
	10...35 V DC, PNP, 三线制连接
	AS-总线
	其他

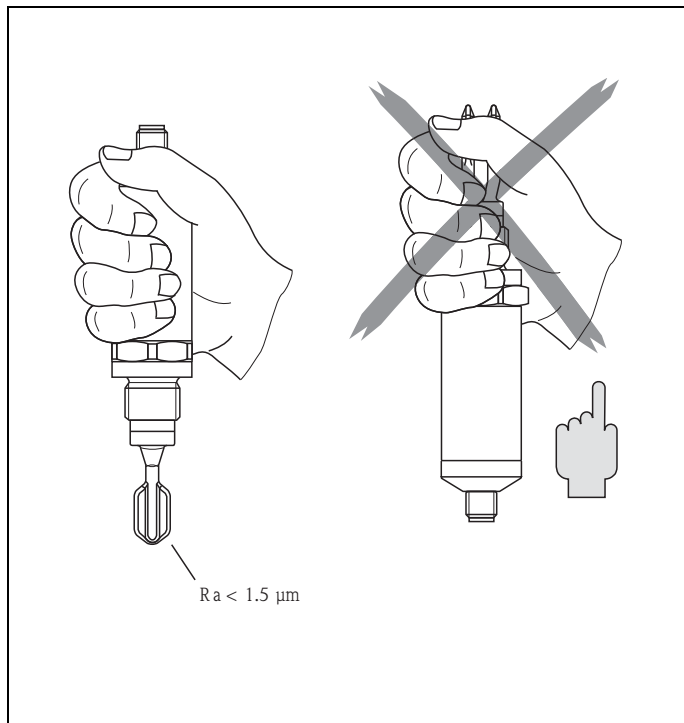
B	Pg 11, ISO4400, 150 °C
C	NPT 1/2", ISO4400, 150 °C
D	M12, 150 °C
E	接头, 带QUICKON连接
F	M12, 150 °C
Y	其他, IP65, IP67, IP65, IP69K, 316L, 150 °C

*¹ 安装在焊入式接头中(附件)

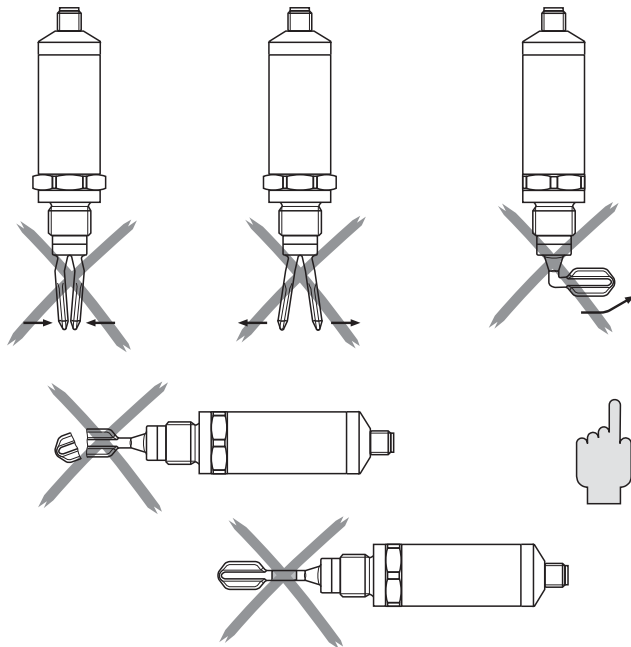
*² 卫生型连接

*³ Tri-Clamp连接

操作
握住外壳
禁止握住传感器叉体



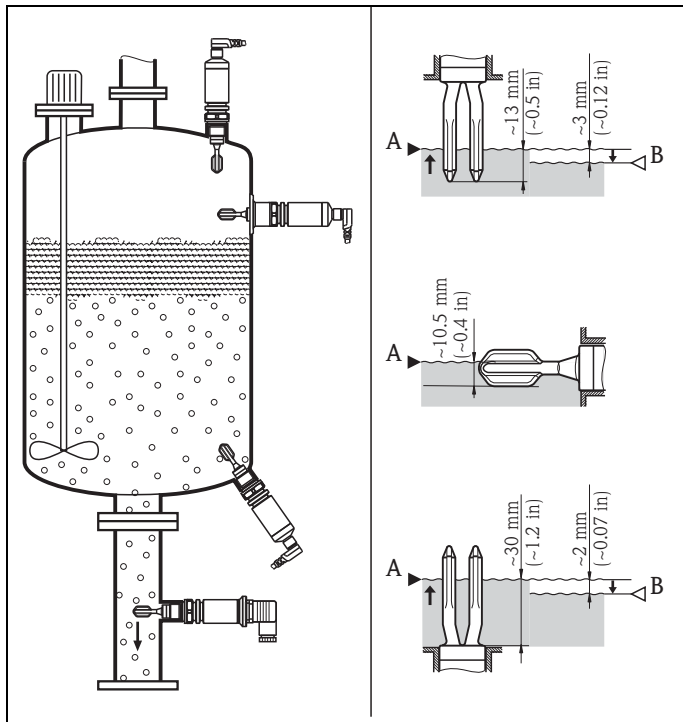
禁止弯曲
禁止截短
禁止拉伸



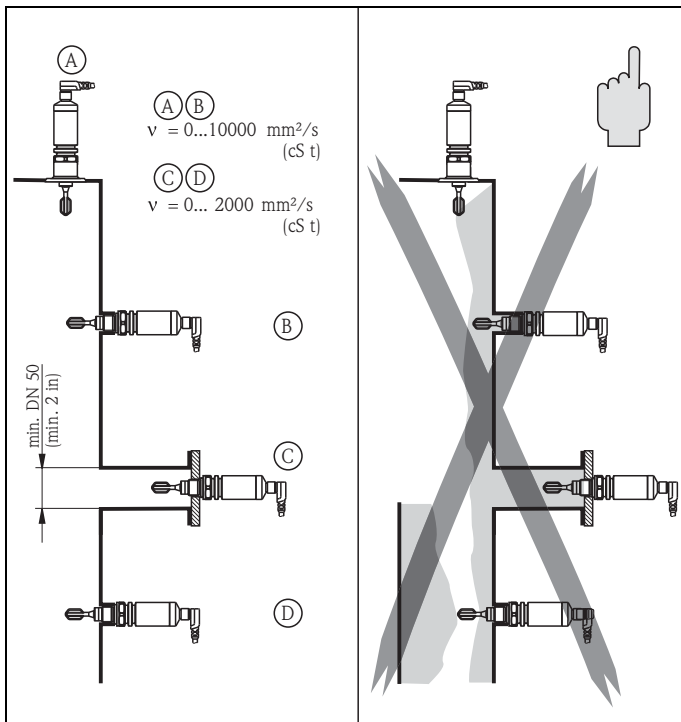
安装实例

A: 开关点

B: 开关迟滞性



考虑粘度和粘附



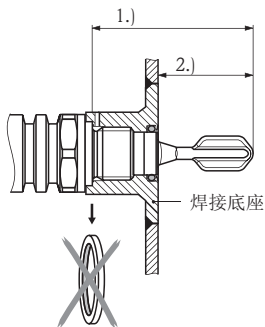
安装

过程连接

G 1/2 A、G 3/4 A、G 1 A
(DIN ISO 228/1)

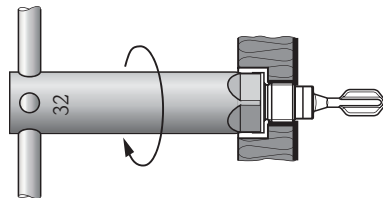
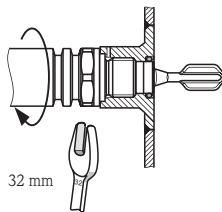
G 3/4" => 1.) ~ 63.9 mm (~ 2.6 in) 2.) ~ 38.0 mm (~ 1.5 in)

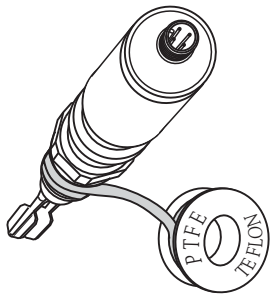
G 1" => 1.) ~ 78.0 mm (~ 3.7 in) 2.) ~ 48.0 mm (~ 1.9 in)



max. 150 °C / 25 bar
(max. 300 °F / 360 psi)

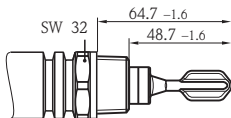
max. 100 °C / 40 bar
(max. 210 °F / 580 psi)





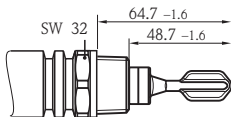
1/2 NPT (316L): max. 40 bar
max. 150 °C

3/4 NPT (316L): max. 40 bar
max. 150 °C



R 1/2 (316L): max. 40 bar
max. 150 °C

R 3/4 (316L): max. 40 bar
max. 150 °C



NPT 1/2"、3/4"
ANSI B 1.20.1
R 1/2"、3/4"
DIN 2999

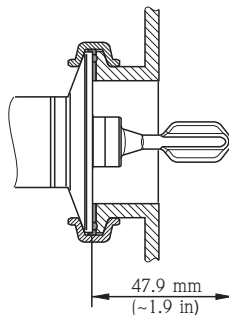
A: 过程连接

Tri-Cclamp 卡箍 1 ½“、2“
(ISO 2852)

B: 卫生型连接

DN 25、32、40 (DIN 11851)

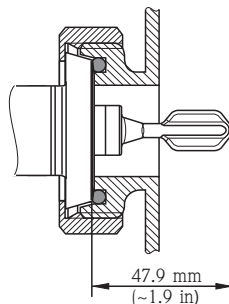
A



max. 120 °C / 16 bar
(max. 250 °F / 230 psi)

max. 150 °C / 2 bar
(max. 300 °F / 29 psi)

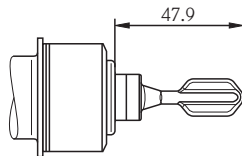
B



DN25、DN32、DN40:
max. 100 °C / 40 bar
(max. 210 °F / 580 psi)
max. 140 °C / 25 bar
(max. 284 °F / 360 psi)

DN 50:
max. 140 °C / 25 bar
(max. 284 °F / 360 psi)

带硅密封圈和连接螺母



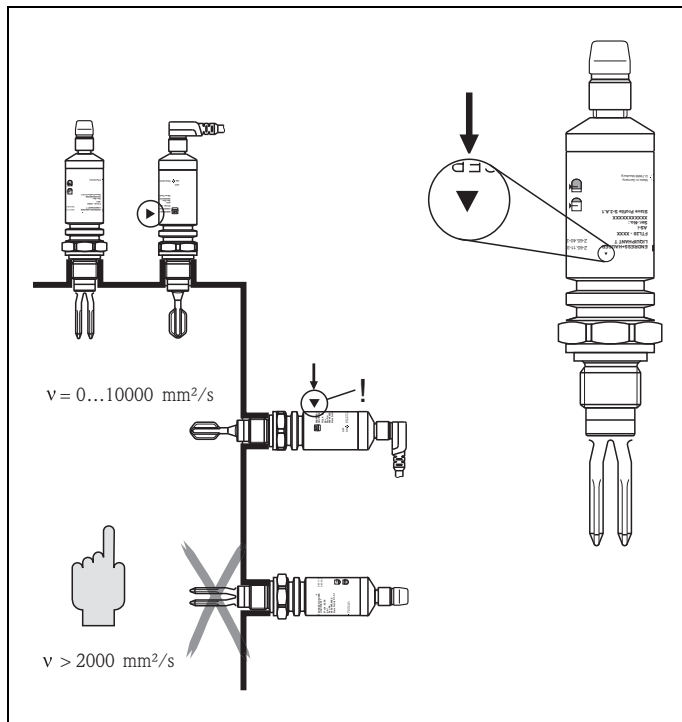
max. 100 °C
max. 40 bar

max. 150 °C
max. 25 bar

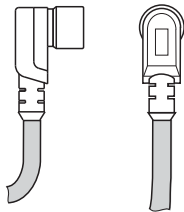
EHEDG

过程连接
针对焊接底座 1"

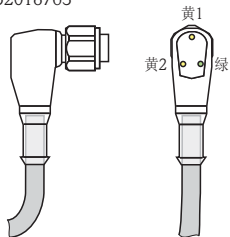
对准传感器叉体
注意标记 ▼



52010285



52018763



数字 = 颜色

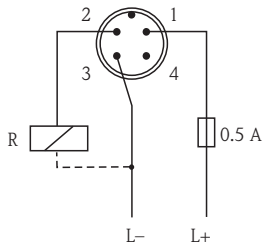
- | | | | | |
|---|---|----|---|----|
| 1 | = | BN | = | 棕色 |
| 2 | = | WT | = | 白色 |
| 3 | = | BU | = | 蓝色 |
| 4 | = | BK | = | 黑色 |

电气连接
M12x1 插头

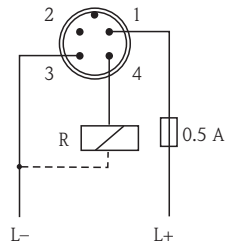
直流 (DC) 连接 (PNP)

M12 x 1 插头

高限(MAX)



低限(MIN)

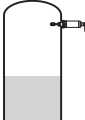
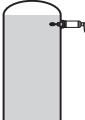
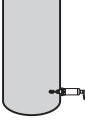
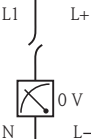
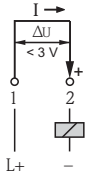
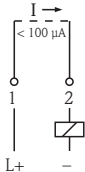
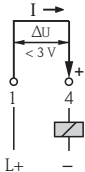
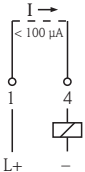
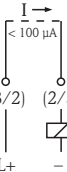
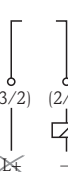
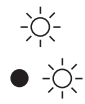
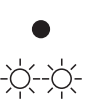
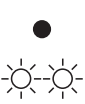
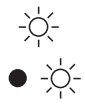


R = 外部负载

I max. 250 mA
U = 10...35 V

1: 棕
2: 白
3: 蓝
4: 黑

功能

	高限(MAX)		低限(MIN)			
					故障	
U _{...} (DC)						
 (PNP)						
						
						

 亮起

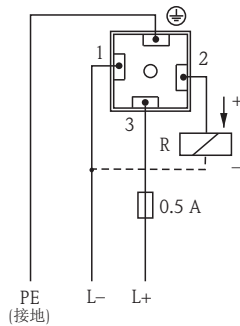
 闪烁

 熄灭

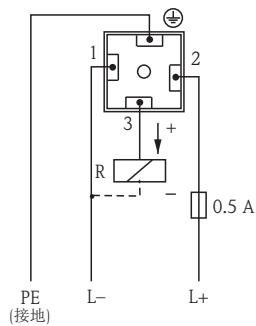
直流 (DC) 连接 (PNP)

转接头

高限(MAX)

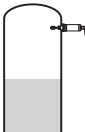
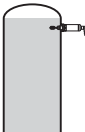
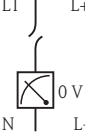
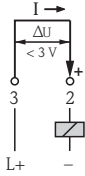
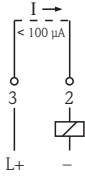
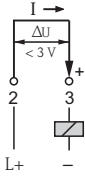
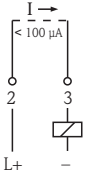
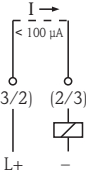
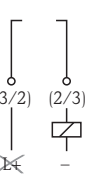


低限(MIN)



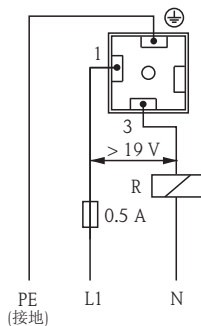
R = 外部负载

I max. 250 mA
U = 10...35 V

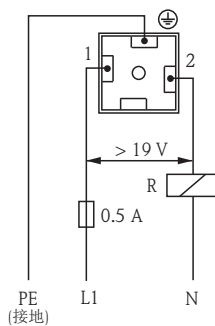
	高限(MAX)		低限(MIN)			
					故障	
U _{...} (DC)						
 (PNP)						
						
 = 亮起  = 闪烁  = 熄灭						

交流 (AC) 连接 转接头

高限(MAX)



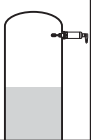
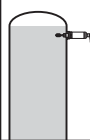
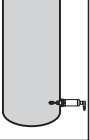
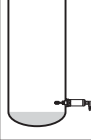
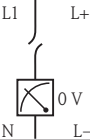
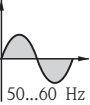
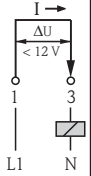
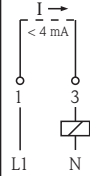
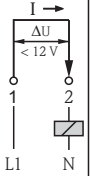
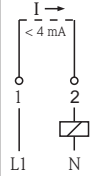
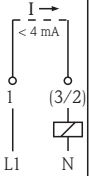
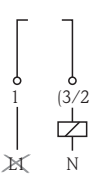
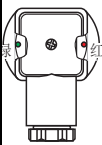
低限(MIN)



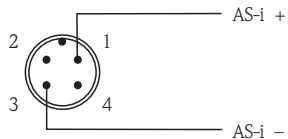
R = 外部负载

I max. 250 mA
U – 19...253 V DC

min. 2.5 VA / 253 V (10 mA)
min. 0.5 VA / 24 V (20 mA)

	高限(MAX)		低限(MIN)		故障	
					故障	
U~ (AC)						
						
	 ●	 	 ●	 	 	● ●
 = 亮起  = 闪烁 ● = 熄灭						

AS-i 总线连接



1: 棕
3: 蓝

AS-i型: S-3.A.1 (EN 50295、IEC 62026-2)

地址设置为0 (HEX): 通过总线主设备或用组态设置设备可以更改地址

数据位: 不使用参数位(P0...P3)

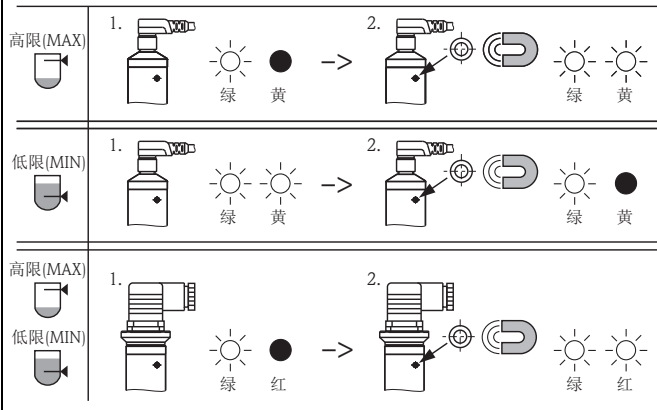
D0 : 1		D1 : 1	状态	正常
D0 : 0		D1 : 0	状态	故障
不使用D2和D3				



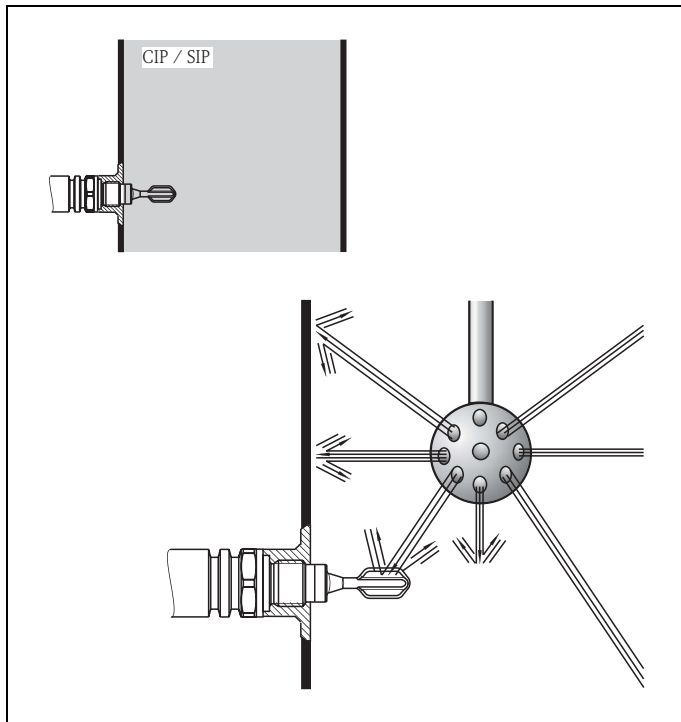
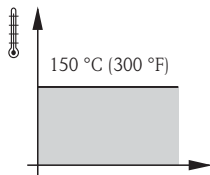
必须确保不会引发危险操作。

测试

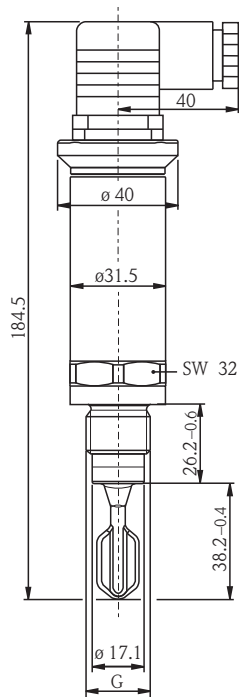
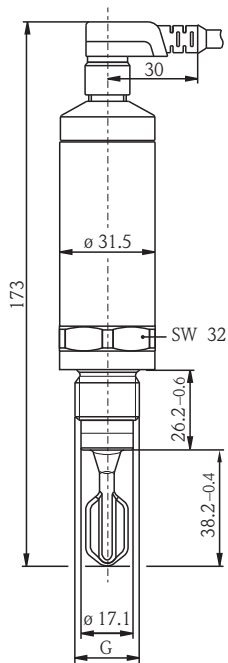
使用开关磁铁



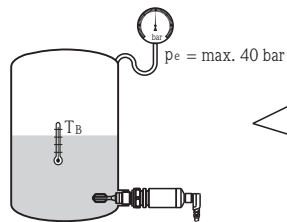
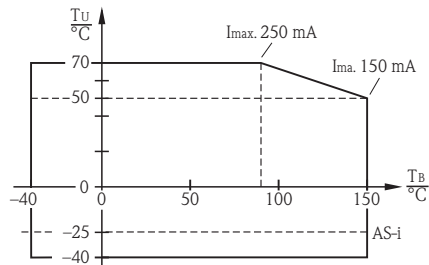
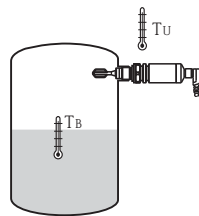
AS-i:
D0 翻转



技术参数
单位: mm

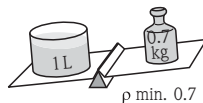


工作压力 p_e

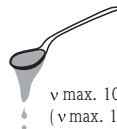


过程连接

密度 ρ



粘度 ν

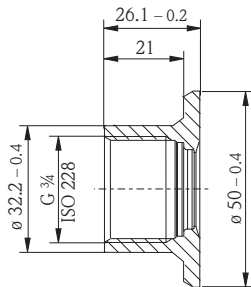


ν max. 10000 mm²/s
(ν max. 10000 cSt)

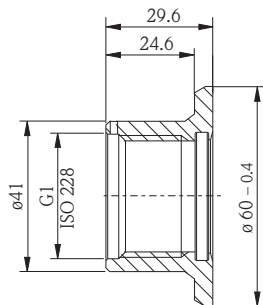
$$100 \text{ mm} = 3.94 \text{ in}$$

焊接底座

G $\frac{3}{4}$
52018765



G 1
52001051



附件和备件

单位: mm

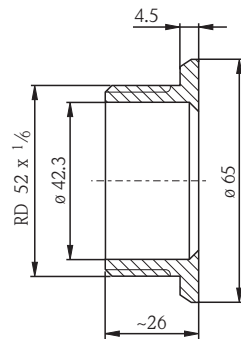
100 mm = 3.94 in

附件和备件

单位: mm

焊接底座

52001047



电缆

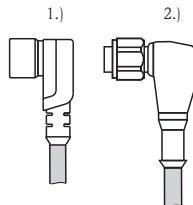
4 x 0.34

1.) M12插头, 弯头

52010285

2.) 带M12插槽(+ LED指示灯)

52018763



附件和备件

密封圈

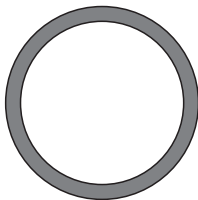
FPM O型圈，适用于焊接底座

G ¾
52018765

G 1
52001051

MVO密封圈，适用于1"过程连接

942816-0000

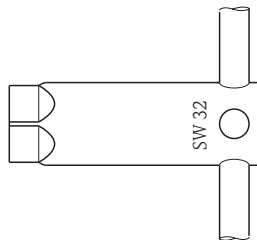


附件和备件

用于安装和测试

过程连接的套筒扳手32 AF

52010156



开关磁铁

52013204



交流 (AC) 型和带转接头的直流 (DC) PNP 型		
故障	原因	补救措施
绿色 LED 指示灯没有亮起	无供电电压	检查插头、电缆和电源
红色 LED 指示灯闪烁	负载电流回路过载或短路	修复短路回路
		减小负载电流, max. 250 mA
	内部传感器错误或传感器腐蚀	更换设备

AS-i 型和带 M12x1 插头的直流 (DC) PNP 型		
故障	原因	补救措施
红色 LED 指示灯亮起 (AS-i)	地址 0 设置错误或通信错误	设定地址
		设置从地址
		如需要, 减小电缆长度 (总长度小于 100 m)
红色 LED 指示灯亮起 (DC-PNP)	负载电流回路过载或短路	修复短路回路
		减小负载电流, max. 250 mA
绿色 LED 指示灯没有亮起	无供电电压	检查插头、电缆和电源
红色 LED 指示灯闪烁 (2 Hz)	内部传感器错误或传感器腐蚀	更换设备

《简明操作手册》

KA00186F Pg11

KA00187F NPT ½”

KA00188F QUICKON

证书

ZE247F (WHG)

常规装置认证 Z-65.11-311

ZE248F (WHG, 泄露)

常规装置认证 Z-65.40-312

E00249F (As 接口)

认证号: 37102

ZE00250F (CSA 通用型, C+US)

认证号: 1238461

—> www.endress.com/ftl20

www.endress.com/worldwide

