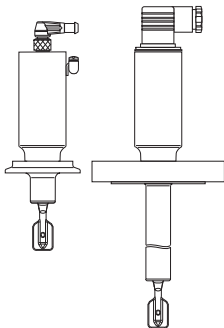


## Çalıştırma Talimatları **Liquiphant M FTL5x (H)-# ### ## # #3 #**

Limit Seviye Sivici kompakt muhafaza ile



## TR - İçindekiler

Güvenlik Notları	3
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### **Uyarı!**

= yasaktır;

hatalı çalışmaya veya kullanılamaz hale gelmesine yol açar.

## TR- Güvenlik Notları

Kompakt muhafazaya sahip  
Liquiphant M FTL50, FTL51,  
FTL50H, FTL51H sınıflarda  
seviye limiti tespiti için  
tasarlanmıştır.

Yanlış kullanılması durumunda  
uygulama kaynaklı tehlikeler  
ortaya çıkabilir.

Cihaz sadece eğitimli ve yetkili  
personel tarafından **bu**

**çalıştırma talimatları, ilgili**  
**tüm standartlar, kanuni**  
**gereksinimler ve gereken**

**durumlarda sertifikalara**  
**uygun şekilde,** monte edilmeli,  
bağlanmalı, devreye alınmalı,  
çalıştırılmalı ve bakımı  
yapılmalıdır.

Cihazın yanına kolay  
ulaşılabilen bir güç sivicisi takın.

Bu güç sivicisini cihazın devre  
kesicisi olarak işaretleyin.



ENDRESS+HAUSER  
LIQUIPHANT M

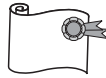
Sipariş kodu

FTL5#-#####



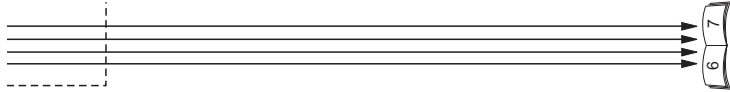
A D C F G H J M P R S U Y

\*1, WHG  
ATEX II 3 G EEx nA II T6, WHG  
ATEX II 3 D T85°C, \*3  
ATEX II 1/2 G EEx Ia IIC T6, WHG  
ATEX II 1/2 D T80°C, \*3  
ATEX II 1/2 G EEx Ia IIC T6  
ATEX II 1/2 D T80°C, \*3  
ATEX II 1 G EEx Ia IIC T6  
NEPSIEx Ia IIC T6  
FM, IS, Cl. I, II, III, Böl. 1, Gr. A-G  
FM, NI, Cl. I, Böl. 2, Gr. A-D  
CSA, IS, Cl. I, II, III, Böl. 1, Gr. A-G  
CSA, Genel amaçlı



A##  
B##  
C##  
D##  
F##  
K##  
N##





GE2 R ¼, DIN 2999, 316L  
 GE5 R ¾, DIN 2999, AlloyC4  
 GF2 R 1, DIN 2999, 316L  
 GF5 R 1, DIN 2999, AlloyC4  
 GM2 NPT ¾, ANSI, 316L  
 GM5 NPT ¾, ANSI, AlloyC4  
 GN2 NPT 1, ANSI, 316L  
 GN5 NPT 1, ANSI, AlloyC4  
 GQ2 G ¾, ISO 228, 316L  
 GQ5 G ¾, ISO 228, AlloyC4  
 GR2 G 1, ISO 228, 316L  
 GR5 G 1, ISO 228, AlloyC4



max. 100 bar, 150 °C



max. 100 bar, 150 °C



max. 40 bar, 100 °C  
 max. 25 bar, 150 °C



max. 16 bar, 120 °C  
 max. 2 bar, 150 °C

GW2 G 1, ISO 228, 316L

TC2 DN 25-38 (1...1½"), ISO 2852, 316L  
 Tri-Clamp  
 TE2 DN 40-51 (2"), ISO 2852, 316L  
 Tri-Clamp

YY9 #2

#1

hariç

#2

diğerleri

#3

PBT için geçerli değil

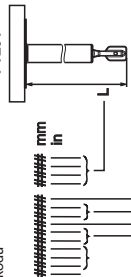


ENDRESS+HAUSER  
LIQUIPHANT M

Sipariş kodu

FTL5#-##### mm  
in

FTL51



AA #2

BB ..... mm, 316L,

BE ..... mm, AlloyC4, Ra < 3.2 µm/80 grit

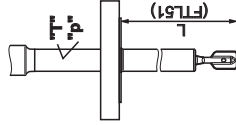
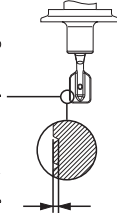
CB ..... in, 316L, Ra < 3.2 µm/80 grit

CE ..... in, AlloyC4, Ra < 3.2 µm/80 grit

DE "L II", 316L, Ra < 3.2 µm/80 grit

DE "L II", AlloyC4, Ra < 3.2 µm/80 grit

< 3.2 µm (80 grit)



IA #2

JB ..... mm, 316L

JE ..... mm, AlloyC4

KB ..... in, 316L

KE ..... in, AlloyC4

LB "L II", 316L

LE "L II", AlloyC4

+ "T" (FTL50)

+ "T"

+ "T"

+ "T"

+ "T"

+ "T"

+ "T"

QA #2

RB ..... mm, 316L

RE ..... mm, AlloyC4

SB ..... in, 316L

SE ..... in, AlloyC4

TB "L II", 316L

TE "L II", AlloyC4

+ "p" (FTL50)

+ "p"

+ "p"

+ "p"

+ "p"

+ "p"

+ "p"

YY #2

1 FEL51, 19...253 V AC  
 2 FEL52, 10... 55 V DC, PNP  
 8 FEL58, NAMUR, HL  
 9 \*2

C3 316L, IP66/68, 5 m  
 D3 316L, IP65, Pg11, ISO 4400  
 E3 316L, NEMA 4x, NPT ½, ISO 4400  
 N3 316L, IP66/68, M12  
 Y9 \*2

A \*1  
 C EN 10204-3.1, 316L  
 N EN 10204-3.1, NACE MR0175, 316L  
 P 100 bar (FTL51)  
 R 100 bar, EN 10204-3.1, NACE MR0175 (FTL51)  
 S GL/ABS marine certificate (FTL51: max. 1600 mm)  
 Y \*2

\*1 hariç

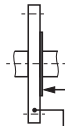
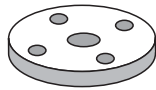
\*2 diğerleri

"L II" Anahtarlama noktası

Liquiphant II FTL360/365, FDL30/35

"T" Sıcaklık mesafe parçası

"p" Basınç sızdırmayan burç

**ANSI B 16.5**

AA2 1/4", 150 lbs, RF, 316/316L	
AB2 1/4", 300 lbs, RF, 316/316L (FTL51)	
AC2 1/2", 150 lbs, RF, 316/316L	
AD2 1/2", 300 lbs, RF, 316/316L (FTL51)	
AE2 2", 150 lbs, RF, 316/316L	
AE5 2", 150 lbs, AlloyC4 >316/316L	
AF2 2", 300 lbs, RF, 316/316L	
AG2 2", 600 lbs, RF, 316/316L (FTL51)	
AJ2 2 1/2", 300 lbs, RF, 316/316L (FTL51)	
AL2 3", 150 lbs, RF, 316/316L	
AM2 3", 300 lbs, RF, 316/316L (FTL51)	
AN2 3", 600 lbs, RF, 316/316L (FTL51)	
AP2 4", 150 lbs, RF, 316/316L	
AQ2 4", 300 lbs, RF, 316/316L (FTL51)	
AR2 4", 600 lbs, RF, 316/316L (FTL51)	
AB2 1", 150 lbs, RF, 316/316L	

**EN 1092-1**

BA2 DN32, PN6 A, 316L	
BB2 DN32, PN25/40 A, 316L	
BC2 DN40, PN6 A, 316L	
BD2 DN40, PN25/40 A, 316L	
BE2 DN50, PN6 A, 316L	
BG2 DN50, PN25/40 A, 316L	
BH2 DN65, PN6 A, 316L	
BJ2 DN50, PN100 A, 316L (FTL51)	
BK2 DN65, PN25/40 A, 316L	
BM2 DN80, PN10/16 A, 316L	
BN2 DN80, PN25/40 A, 316L	
BQ2 DN100, PN10/16 A, 316L	
BR2 DN100, PN25/40 A, 316L	
B12 DN80, PN100 A, 316L (FTL51)	
B82 DN25, PN25/40 A, 316L	



CA2	DN32, PN6 B1,	316L
CA5	DN32, PN6,	AlloyC4 >316L
CE2	DN50, PN6 B1,	316L
CE5	DN50, PN6,	AlloyC4 >316L
CG2	DN50, PN25/40 B1, 316L	
CG5	DN50, PN25/40,	AlloyC4 >316L
CJ2	DN50, PN100 B2, 316L (FTL51)	
CN2	DN80, PN25/40 B1, 316L	
CN5	DN80, PN25/40,	AlloyC4 >316L
CQ2	DN100, PN10/16 B1, 316L	
CQ5	DN100, PN10/16,	AlloyC4 >316L
C12	DN80, PN100 B2, 316L (FTL51)	
C82	DN25, PN25/40 B1, 316L	
C85	DN25, PN25/40,	AlloyC4 >316L
DG2	DN50, PN40 B1,	316L
DN2	DN80, PN40 B1,	316L
D82	DN25, PN40 B1,	316L
FG2	DN50, PN40 C,	316L
NG2	DN50, PN40 D,	316L

#### JIS B2220

KA2	10K 25, RF,	316L
KC2	10K 40, RF,	316L
KE2	10K 50, RF,	316L
KE5	10K 50,	AlloyC4 >316L
KL2	10K 80, RF,	316L
KP2	10K 100, RF,	316L



ENDRESS+HAUSER  
LIQUIPHANT M

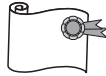
Sipariş kodu

FTL5#H-#####












A D C F G H J M P R S U Y

\*1, WHG  
ATEX II 3 G EEx nA II T6, WHG  
ATEX II 3 D T85°C, \*3  
ATEX II 1/2 G EEx Ia IIC T6, WHG  
ATEX II 1/2 D T80°C, \*3  
ATEX II 1/2 G EEx Ia IIC T6  
ATEX II 1/2 D T80°C, \*3  
ATEX II 1 G EEx Ia IIC T6  
ATEX II 1 G EEx Ia IIC T6, WHG  
NEPSI Ex Ia IIC T6  
FM, IS, Cl. I, II, III, Böl. 1, Gr. A-G  
FM, NI, Cl. I, Böl. 2, Gr. A-D  
CSA, IS, Cl. I, II, III, Böl. 1, Gr. A-G  
CSA, Genel amaçlı



A##  
B##  
C##  
K##



EE2	1", 316L		max. 40 bar, 100 °C max. 25 bar, 150 °C
GQ2	G ¾, ISO 228, 316L (FTL50H)		max. 100 bar, 150 °C
GW2	G 1, ISO 228, 316L		max. 40 bar, 100 °C max. 25 bar, 150 °C
HE2	DIN 11864-1 A, DN50, 316L		max. 25 bar, 140 °C
MA2	DIN 11851, DN32 PN25, 316L		DN32/40: max. 40 bar, 100 °C DN32/40, DN50: max. 25 bar, 140 °C
MC2	DIN 11851, DN40 PN25, 316L		
ME2	DIN 11851, DN50 PN25, 316L		
PE2	DRD, 65 mm, 316L		max. 40 bar, 100 °C max. 25 bar, 150 °C
TC2	DN25-38 (1...1½"), ISO 2852, 316L Tri-Clamp		max. 16 bar, 120 °C max. 2 bar, 150 °C
TE2	DN40-51 (2"), ISO 2852, 316L Tri-Clamp		
UE2	SMS 2", PN25, 316L		max. 25 bar, 140 °C
WE2	Varivent®, DN65-162 PN10, 316L		max. 64 bar, 150 °C
YY9	*2		

12 13

- \*1 hariç
- \*2 diğerleri
- \*3 PBT için geçerli değil



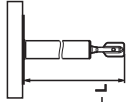
ENDRESS+HAUSER  
LIQUIPHANT M

Sipariş kodu

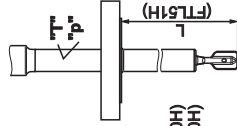
FTL51H

FTL5#H-##### mm

in



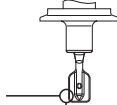
AC	#2	Ra < 1.5 µm/120 grit	(FTL50H)
AD	#2	Ra < 0.3 µm/320 grit 3A	(FTL50H)
BC	..... mm,	Ra < 1.5 µm/120 grit	
BD	..... mm,	Ra < 0.3 µm/320 grit 3A	
CC	..... in,	Ra < 1.5 µm/120 grit	
CD	..... in,	Ra < 0.3 µm/320 grit 3A	
DC	"L II",	Ra < 1.5 µm/120 grit	
DD	"L II",	Ra < 0.3 µm/320 grit 3A	
IC	#2	Ra < 1.5 µm/120 grit	+ "T" (FTL50H)
ID	#2	Ra < 0.3 µm/320 grit 3A	+ "T" (FTL50H)
JC	..... mm,	Ra < 1.5 µm/120 grit	+ "T"
JD	..... mm,	Ra < 0.3 µm/320 grit	+ "T"
KC	..... in,	Ra < 1.5 µm/120 grit	+ "T"
KD	..... in,	Ra < 0.3 µm/320 grit	+ "T"
LC	"L II",	Ra < 1.5 µm/120 grit	+ "T"
LD	"L II",	Ra < 0.3 µm/320 grit	+ "T"
QC	#2	Ra < 1.5 µm/120 grit	+ "p" (FTL50H)
QD	#2	Ra < 0.3 µm/320 grit 3A	+ "p" (FTL50H)
RC	..... mm,	Ra < 1.5 µm/120 grit	+ "p"
RD	..... mm,	Ra < 0.3 µm/320 grit	+ "p"
SC	..... in,	Ra < 1.5 µm/120 grit	+ "p"
SD	..... in,	Ra < 0.3 µm/320 grit	+ "p"
TC	"L II",	Ra < 1.5 µm/120 grit	+ "p"
TD	"L II",	Ra < 0.3 µm/320 grit	+ "p"



< 1.5 µm (120 grit)

< 0.3 µm (320 grit)

YY #2



FEL51, 19...253 V AC  
 FEL52, 10... 55 V DC, PNP  
 FEL58, NAMUR, HL  
 \*2

C3 316L, IP66/68, 5 m  
 D3 316L, IP65, Pg11, ISO 4400  
 E3 316L, NEMA 4x, NPT 1/2, ISO 4400  
 N3 316L, IP66/68, M12  
 Y9 \*2

A \*1  
 B EN 10204-3.1, CoC  
 C EN 10204-3.1, 316L  
 S GL/ABS marine certificate (FTL51H: max. 1600 mm)  
 Y \*2

\*1 hariç

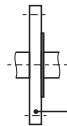
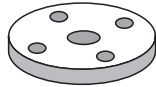
\*2 diğerleri

"L II" Anahtarlama noktası

**Liquiphant II FTL360/365, FDL30/35**

"T" Sıcaklık mesafe parçası

"p" Basınç sızdırmayan burç



**ANSI B 16.5**

AA2 1¼", 150 lbs, RF, 316/316L  
 AC2 1½", 150 lbs, RF, 316/316L  
 AE2 2", 150 lbs, RF, 316/316L  
 AF2 2", 300 lbs, RF, 316/316L  
 AJ2 2½", 300 lbs, RF, 316/316L (FTL51H)  
 AL2 3", 150 lbs, RF, 316/316L  
 AM2 3", 300 lbs, RF, 316/316L (FTL51H)  
 AP2 4", 150 lbs, RF, 316/316L  
 AQ2 4", 300 lbs, RF, 316/316L (FTL51H)  
 A82 1", 150 lbs, RF, 316/316L

**EN 1092-1**

BA2 DN32, PN6 A, 316L  
 BB2 DN32, PN25/40 A, 316L  
 BC2 DN40, PN6 A, 316L  
 BD2 DN40, PN25/40 A, 316L  
 BE2 DN50, PN6 A, 316L  
 BG2 DN50, PN25/40 A, 316L  
 BH2 DN65, PN6 A, 316L  
 BK2 DN65, PN25/40 A, 316L  
 BM2 DN80, PN10/16 A, 316L  
 BN2 DN80, PN25/40 A, 316L  
 BQ2 DN100, PN10/16 A, 316L  
 BR2 DN100, PN25/40 A, 316L  
 B82 DN25, PN25/40 A, 316L  
 CG2 DN50, PN25/40 B1, 316L  
 CN2 DN80, PN25/40 B1, 316L  
 CQ2 DN100, PN10/16 B1, 316L

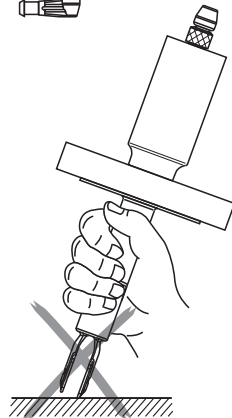
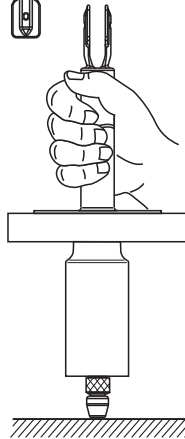
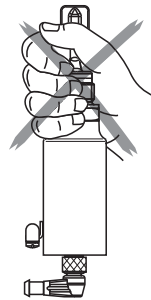
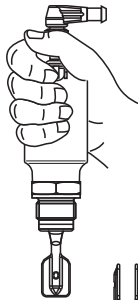
**JIS B2220**

KA2 10K 25, RF,  
KC2 10K 40, RF,  
KE2 10K 50, RF,  
KL2 10K 80, RF,  
KP2 10K 100, RF,

316L  
316L  
316L  
316L  
316L

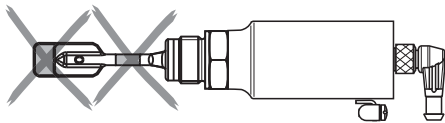
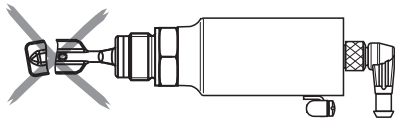
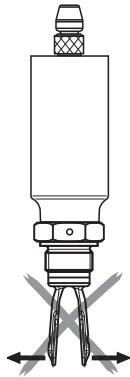
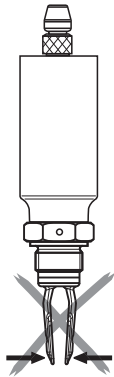
## TR- Taşınması

Muhafaza, flanş veya uzatma  
borusundan tutma



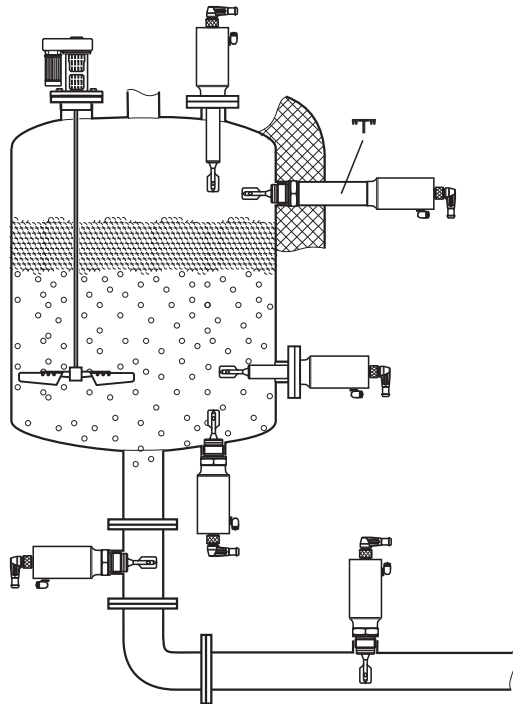


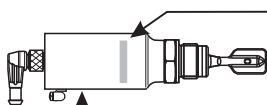
TR- Bükme  
Kısaltmayın  
Uzatmayın



## TR- Uygulama

Akışkanlarda limit seviye tespiti

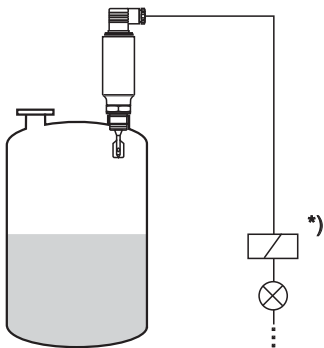




Elektronik

Sipariş kodu:  
**FTL5#(H) - # ### # # # #**

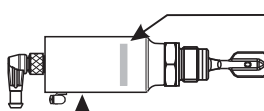
**FEL51**  
**FEL52**  
**FEL58**



\*)) Harici yük

**TR- Ölçüm sistemi**  
doğrudan bağlantı için

TR- Ölçüm sistemi  
anahtarlama ünitesi ile  
bağlantı için



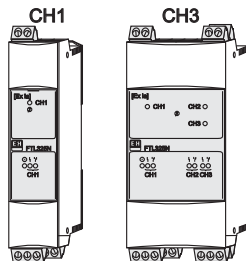
Elektronik

Sipariş kodu:  
**FTL5#(H) - # ### # # # #**

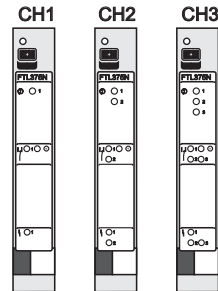
**FEL58**

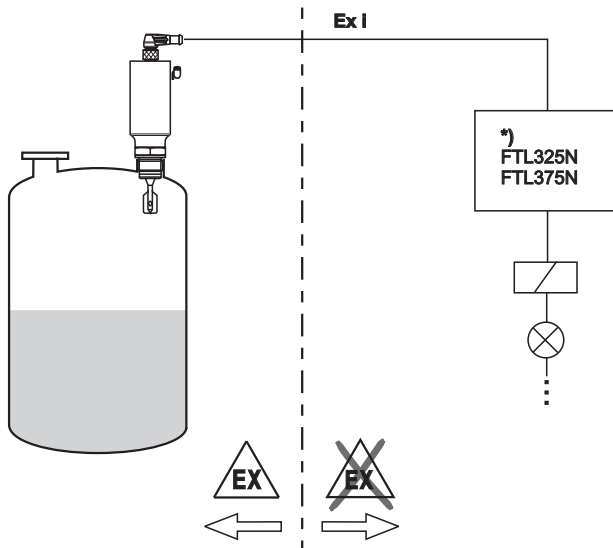
+

**FTL325N**



**FTL375N**

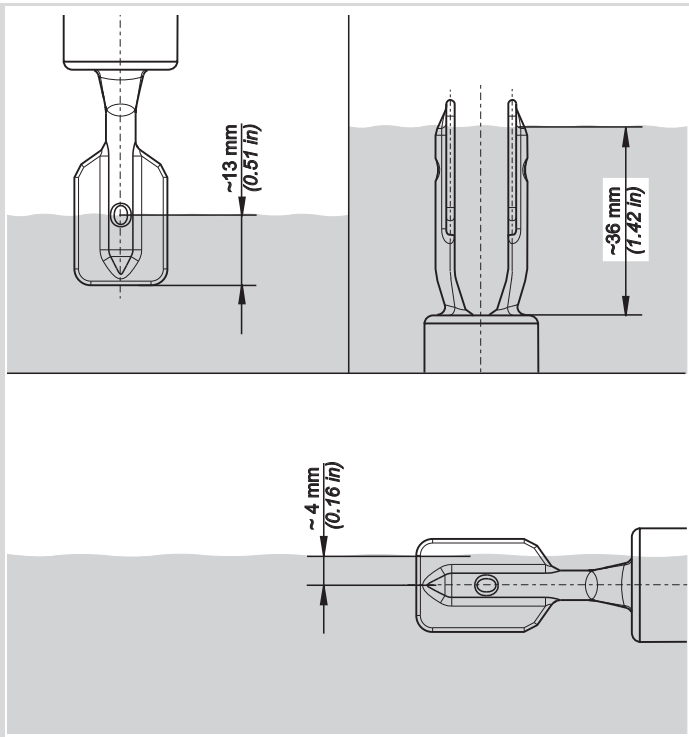




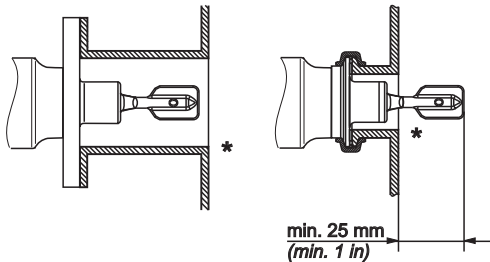
\*) Anahtarlama ünitesi, PLC, izolasyon güçlendirici

## TR- Montaj

Anahtarlama noktası montaj pozisyonuna bağlıdır



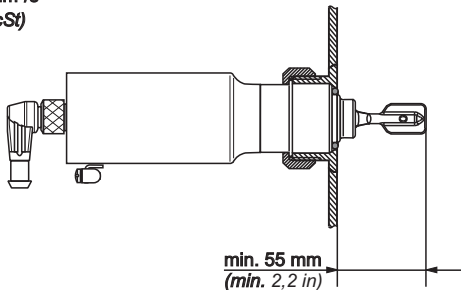
$v = 0 \dots 2000 \text{ mm}^2/\text{s}$   
( $\nu = 0 \dots 2000 \text{ cSt}$ )



**min. 25 mm**  
(**min. 1 in**)

\* çapak alma

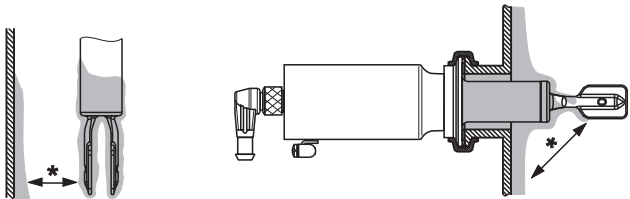
$v = 0 \dots 10000 \text{ mm}^2/\text{s}$   
( $\nu = 0 \dots 10000 \text{ cSt}$ )



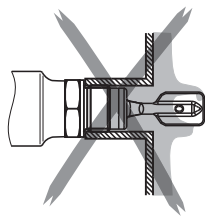
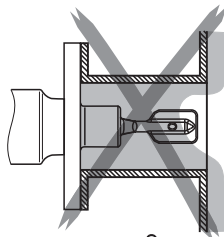
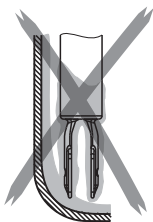
**min. 55 mm**  
(**min. 2,2 in**)

TR- Montaj örnekleri  
sıvı viskozitesi fonksiyonu  
olarak v

TR- Birikmeyi dikkate alın.  
Çatal birikme ile temas  
etmemelidir

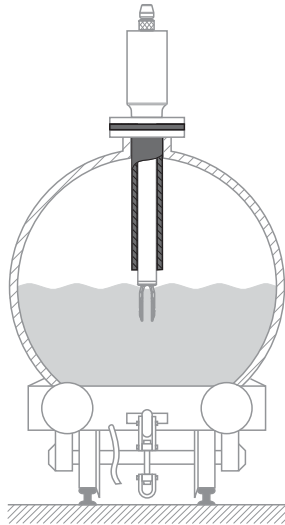
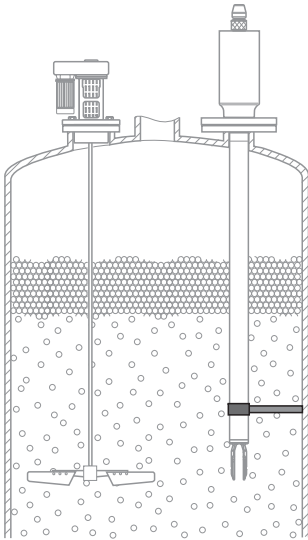


\* Mesafe!

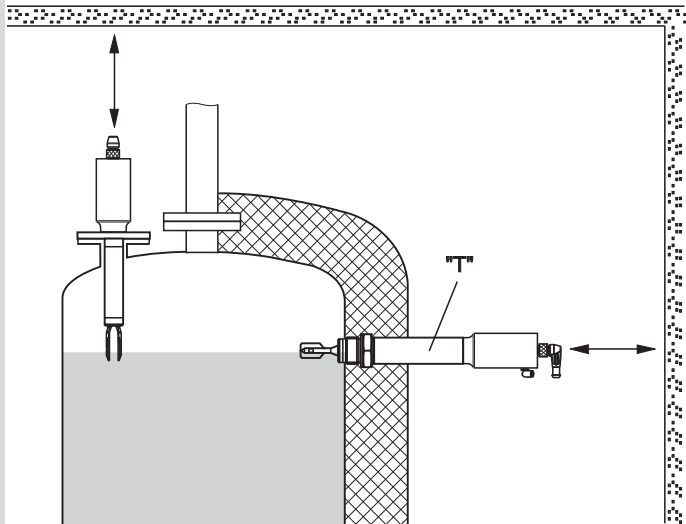




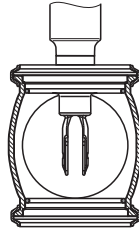
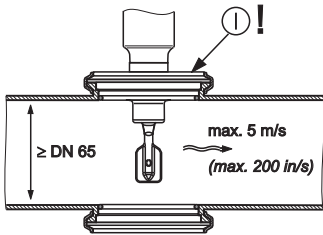
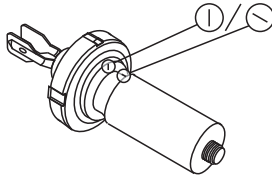
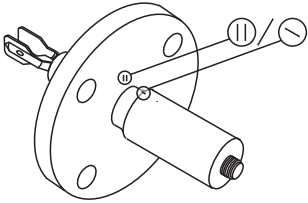
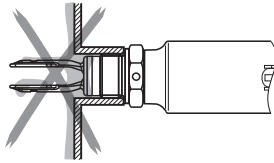
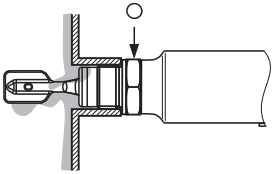
TR- Dinamik kuvvet destek  
durumunda



"T" = yalıtımlı tanklar için sıcaklık mesafe parçası ile

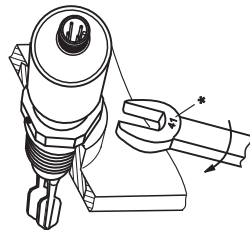
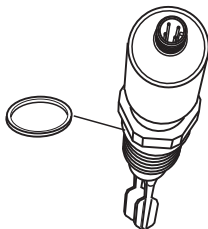


**TR- Çatal dişlerinin yönü:**  
Yukarıyı veya aşağıyı gösteriyor  
borularda yönlendirme:  
Akış yönünde işaretlenir

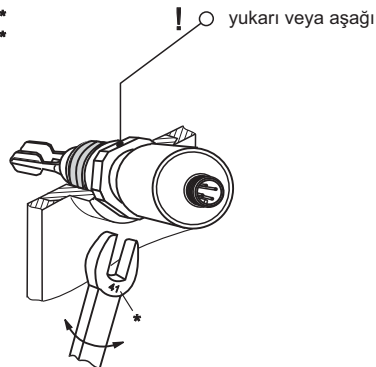
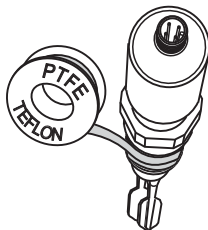


**TR-** Liquiphant'ı proses bağlantısına  
vidalayın.  
Çevirmek için muhafazayı  
kullanmayın.

**G ¾, 32 mm (1¼")\***  
**G 1, 41 mm (1⅝")\***



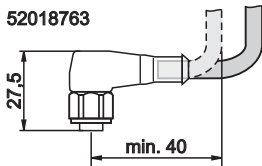
**NPT ¾, R ¾, G ¾, 32 mm (1¼")\***  
**NPT 1, R 1, G 1, 41 mm (1⅝")\***



TR- Bağlantılar  
Boyutlar, mm

Numara = Renk

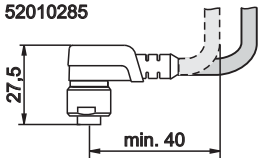
52018763



- 1 = BN
- 2 = WT
- 3 = BU
- 4 = BK

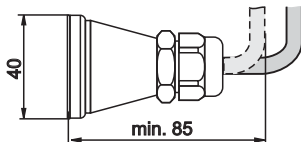
FTL5#(H) #####N3# (M12x1)

52010285



- 1 = BN
- 2 = WT
- 3 = BU
- 4 = BK

FTL5#(H) - #####C3#



- 1 = BU
- 2 = BK
- 3 = BN
- 4 = GNYE

FTL5#(H)-#####D3# (PG11)  
FTL5#(H)-#####E3# (NPT1/2")

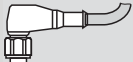


-30°C ≤ TA ≤ +70°C

100 mm = 3,94 inç

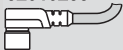
TR- Bağlantılar M12x1  
FEL52 DC-PNP

52018763



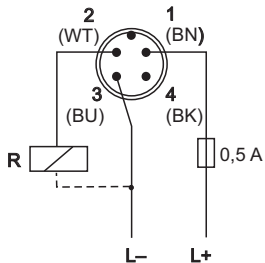
FTL5#(H)-#####N3# (M12x1)

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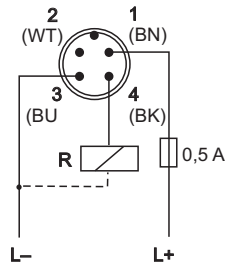


FTL5#(H)-#####N3# (M12x1)

MAX



MIN



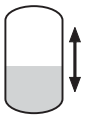
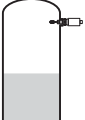
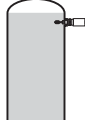
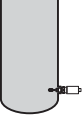
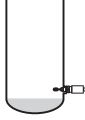








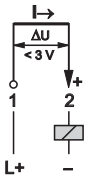
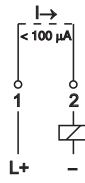
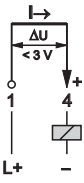
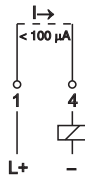
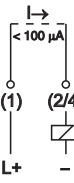
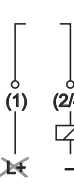







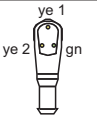









R = harici yük


I<sub>max</sub>. 350 mA  
U = 10...55 V


Örn. EN 61558-1'e uygun galvanik izolasyona sahip güç beslemesi

TR- Fonksiyon  
FEL52 DC-PNP

	MAX		MIN			
					Hata	
$U_{\text{DC}}$						
 (PNP)						
						
						

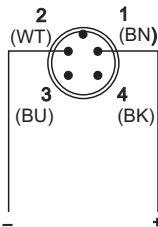
 ışıklar açık

 yanıp sönüyor

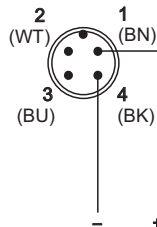
 kapalı

TR- Bağlantılar M12x1  
FEL58 NAMUR

MAX



MIN



H 2,2...3,5 mA

L 0,6...1,0 mA



Güç beslemesi

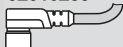
DC: 8,2 V +/- %20

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~~FTL5#(H)#####N3# (M12x1)~~

52010285



FTL5#(H)#####N3# (M12x1)





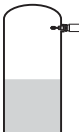
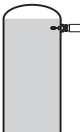


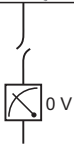

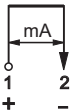
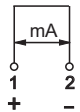
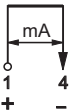
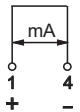












NAMUR (IEC 60947-5-6)'ya uygun izolasyon güçlendirici

örn.  
FXN421, FXN422, SIN100, SIN110,  
FTL325N, FTL375N

Çoklayıcı: görev pals döngüsü min. 3 s



TR- Fonksiyon  
FEL58 NAMUR

	MAX		MIN		Hata	
					Hata	
NAMUR	H 2,2...3,5		H 2,2...3,5			
						
		0,6...1,0 L		0,6...1,0 L	< 1,0	
						
	1,0 Hz	1,0 Hz	1,0 Hz	1,0 Hz	0,3 Hz	
	 = ışıklar açık  = yanıp sönüyor  = kapalı					

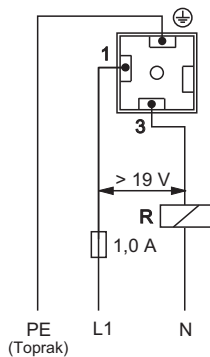
TR- Bağlantı valf konnektörü  
FEL51 AC

FTL5#(H)-#####D3# (PG11)  
FTL5#(H)-#####E3# (NPT1/2")

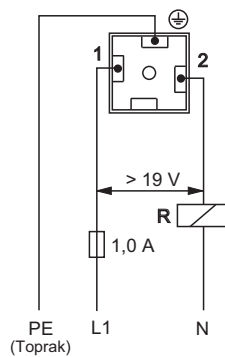


$-30^{\circ}\text{C} \leq \text{TA} \leq +70^{\circ}\text{C}$

MAX




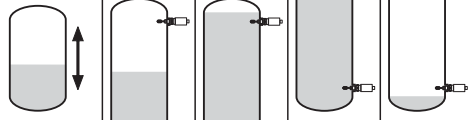
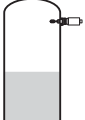
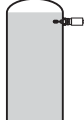
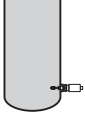
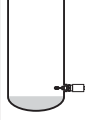
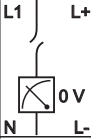






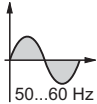
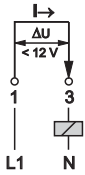
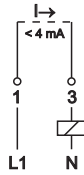
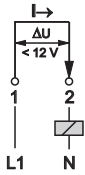
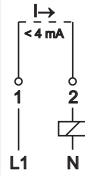

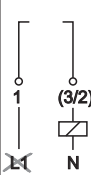
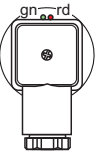









MIN



R = harici yük

min. 2,5 VA / 253 V (10 mA)  
min. 0,5 VA / 24 V (20 mA)

I max. 350 mA  
 $U \approx 19 \dots 253 \text{ V AC}$

	MAX		MI		Hata	
					Hata	
U~ (AC)						
						
						
	 = ışıklar açık  = yanıp sönüyor  = kapalı					

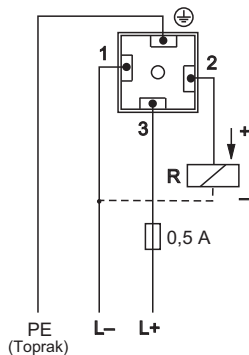
TR- Bağlantı valf konnektörü  
FEL52 DC-PNP

FTL5#(H)-#####D3# (PG11)  
FTL5#(H)-#####E3# (NPT1/2")

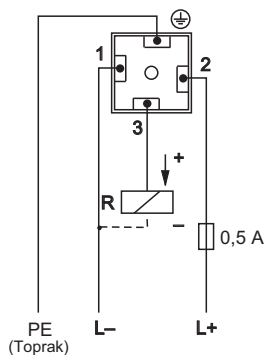


$-30^{\circ}\text{C} \leq \text{TA} \leq +70^{\circ}\text{C}$

MAX


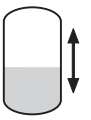
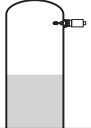
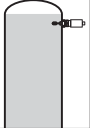
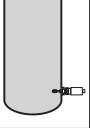
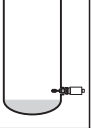
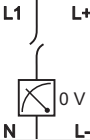







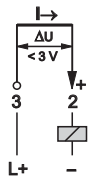
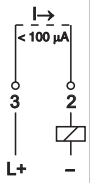
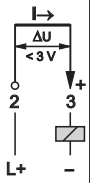
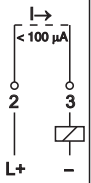
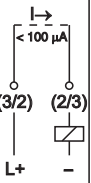
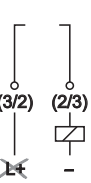












MIN



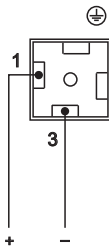
R = harici yük

$I_{\text{max.}} 350 \text{ mA}$   
 $U = 10 \dots 55 \text{ V}$

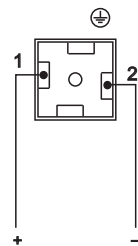
	MAX		MIN		$\zeta$	
					Hata	
$U_{DC}$ (DC)						
 (PNP)						
						
	<p> = ışıklar açık</p> <p> = yanıp sönüyor</p> <p> = kapalı</p>					

## TR- Bağlantı valf konnektörü FEL58 NAMUR

MAX



MIN



H 2,2...3,5 mA

L 0,6...1,0 mA



## Güç beslemesi

DC: 8,2 V +/- %20

FTL5#(H)-#####D3# (PG11)  
FTL5#(H)-#####E3# (NPT1/2")



$-30^{\circ}\text{C} \leq \text{TA} \leq +70^{\circ}\text{C}$



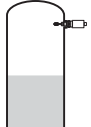
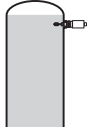
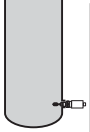
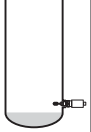
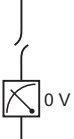


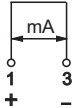
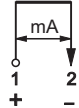

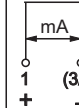
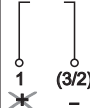
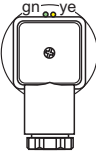









+ -

örn.  
FXN421, FXN422, SIN100, SIN110,  
FTL325N, FTL375N

Çoklayıcı: görev pals döngüsü min. 3 s

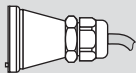
NAMUR (IEC 60947-5-6)'ya  
uygun izolasyon güçlendirici

TR- Fonksiyon  
FEL58 NAMUR

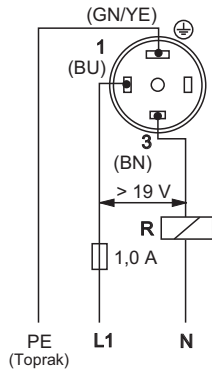
	MAX		MIN		L	
					Hata	
NAMUR	<b>H</b> 2,2...3,5		<b>H</b> 2,2...3,5			
						
		0,6...1,0 <b>L</b>		0,6...1,0 <b>L</b>	< 1,0	
						
	 = ışıklar açık  = yanıp sönüyor  = kapalı					

TR- Bağlantı bağı olmayan  
kablo ucu  
FEL51 AC

FTL5#(H)-#####C3#



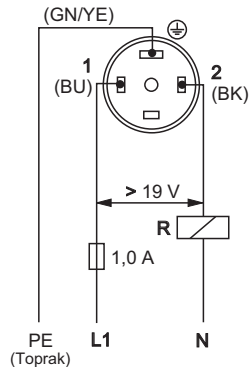
MA



R = harici yük



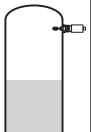
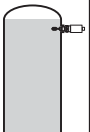
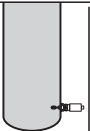
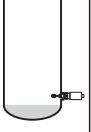
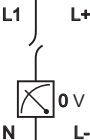






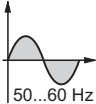
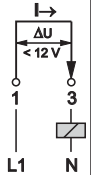
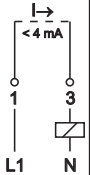
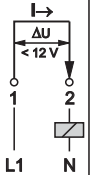
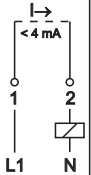
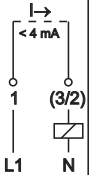
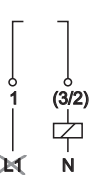










min. 2,5 VA / 253 V (10 mA)  
min. 0,5 VA / 24 V (20 mA)

MI



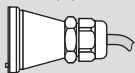
I<sub>max</sub>. 350 mA  
U ≈ 19...253 V AC



	MAX		MIN		⚡	
					Hata	
<b>U~ (AC)</b>						
						
						
	<p> = ışıklar açık   = yanıp sönüyor   = kapalı</p>					

TR- Bağlantı bağı olmayan  
kablo ucu  
FEL52 DC-PNP

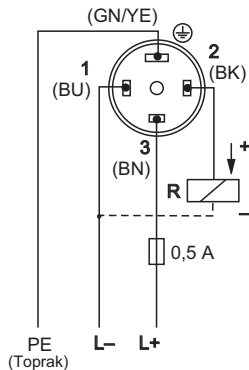
FTL5#(H)-#####C3#



Sadece  
iç mekan  
kullanımı

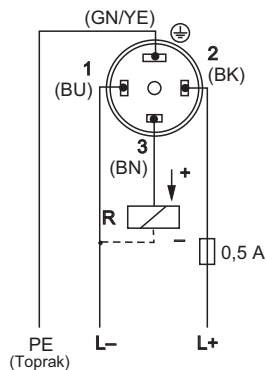


MA



R = harici yük

MI



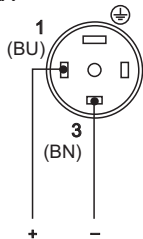
$I_{max}$  350 mA  
 $U = 10...55$  V

TR- Fonksiyon  
FEL52 DC-PNP

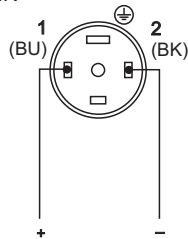
	MAX		MIN		$\zeta$	$\times$
					Hata	
<b>U~ (AC)</b>						
	L1 N	L1 N	L1 N	L1 N	L1 N	L1 N
	<p> = ışıklar açık   = yanıp sönüyor   = kapalı</p>					

TR- Bağlantı bağı olmayan  
kablo ucu  
FEL58 NAMUR

MAX



MIN



H 2,2...3,5 mA

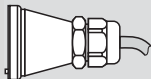
L 0,6...1,0 mA



Güç beslemesi

DC: 8,2 V +/- %20

FTL5#(H)-#####C3#



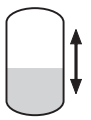
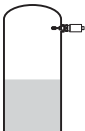
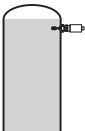
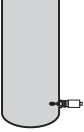



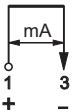
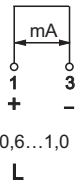
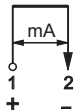
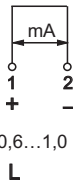
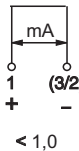
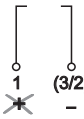












NAMUR (IEC 60947-5-6)'ya uygun izolasyon güçlendirici

örn.  
FXN421, FXN422, SIN100, SIN110,  
FTL325N, FTL375N

Çoklayıcı: görev pals döngüsü min. 3 s

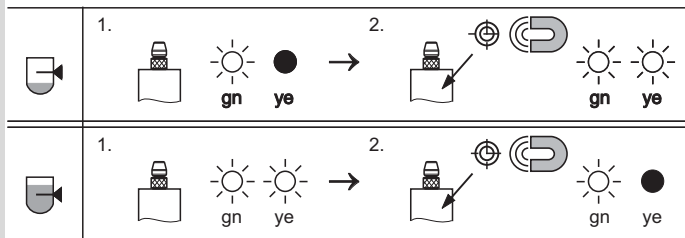
TR- Fonksiyon  
FEL58 NAMUR

	MAX		MIN			
					Hata	
NAMUR	<b>H</b> 2,2...3,5		<b>H</b> 2,2...3,5			
						
						
	 = ışıklar açık  = yanıp sönüyor  = kapalı					

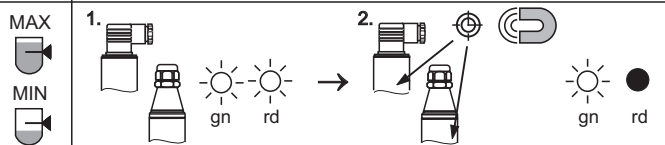
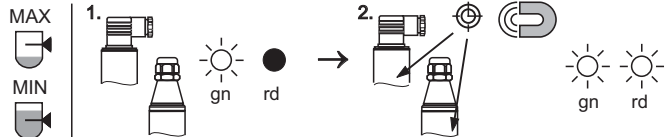


Sistemde tehlikeli bir prosesin tetiklenmediğinden emin olun

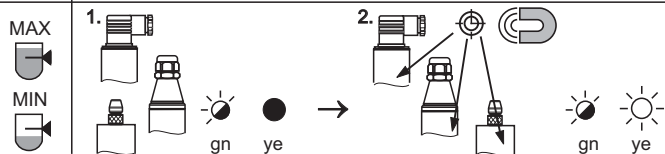
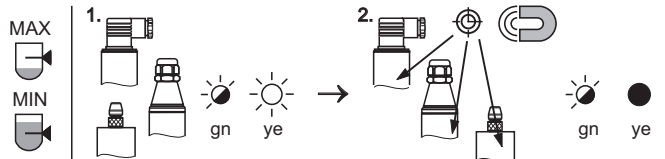
DC-PNP + M12x1

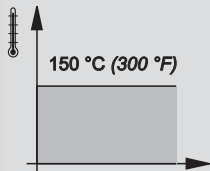
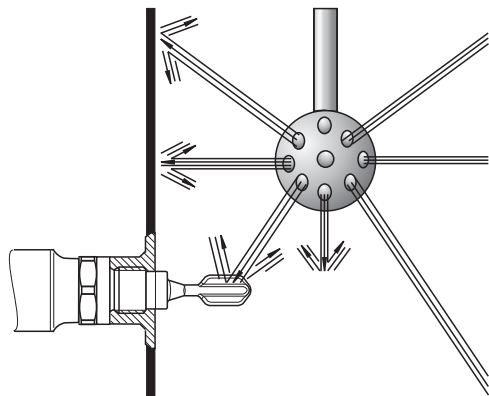
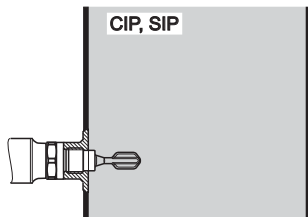


## AC + DC-PNP



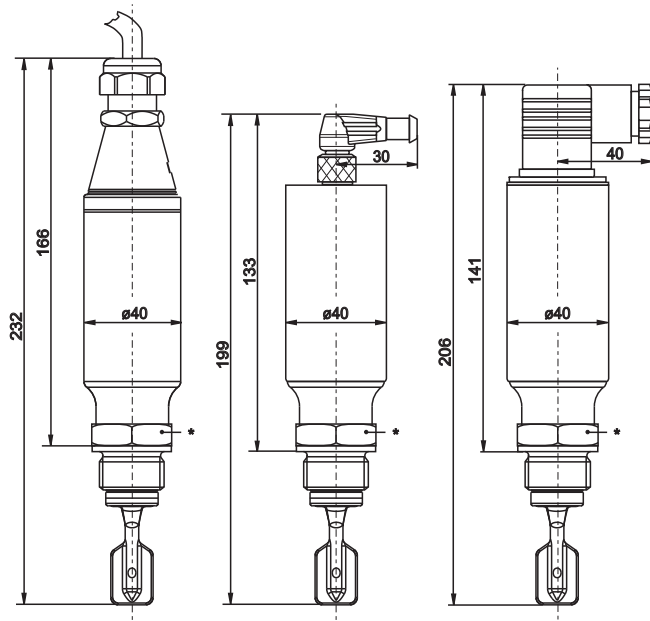
## NAMUR







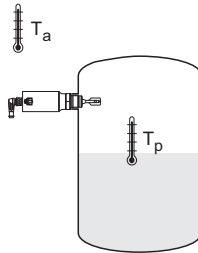
TR- Teknik Veriler  
Boyutlar, mm



\* SW 32 / 32 AF

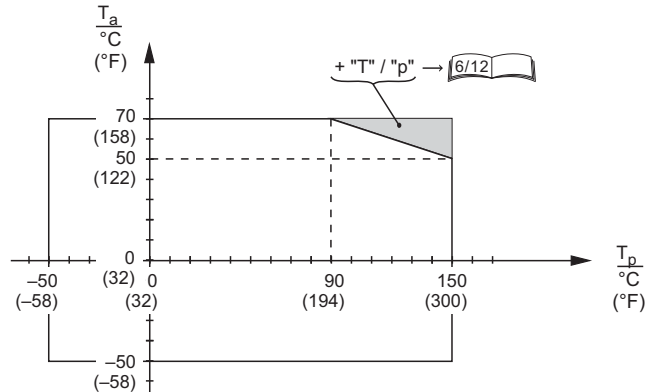
100 mm = 3,94 inç

TR- Ortam sıcaklığı  $T_a$   
İşlem sıcaklığı  $T_p$

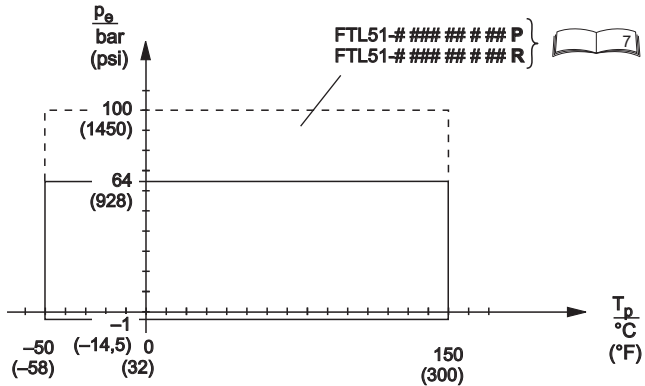


FTL5#(H)-#####D3# (PG11)  
FTL5#(H)-#####E3# (NPT1/2")

$-30^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$

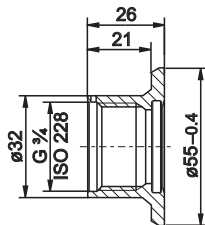


TR- İşlem basıncı  $p_e$   
İşlem sıcaklığı  $T_p$



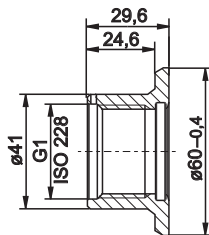
TR- Aksesuarlar, Yedek parçalar  
Boyutlar, mm

100 mm = 3,94 inç

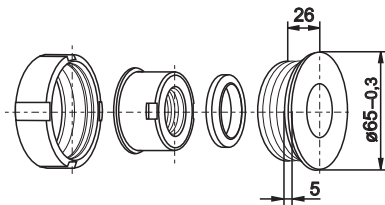


**G 3/4**  
**52001052**

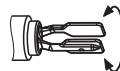
Kaynaklı soket

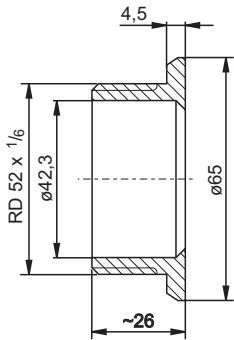


**G 1**  
**52001051**



**G 1**  
**52001221**





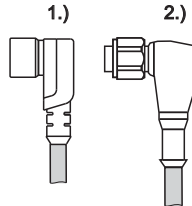
52001047

Kaynak adaptörü

Kablo  
4 x 0,34

1.) M12, açılı  
52010285

2.) M12 soketli (+LED)  
52018763



TR- Boyutlar, mm

1.)

Pozisyonuna sabitlenmiş kablo:  
-25...+70 °C (-13 ile +158 °F)  
arası

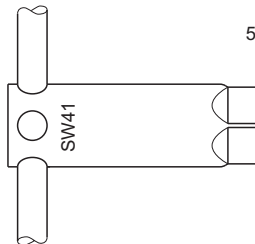
Kablo esnek:

-5...+70 °C (23 ile +158 °F) arası  
Ex nA uygulaması için değil!

100 mm = 3,94 inç

Proses bağlantısı için soket anahtarı 41 AF

52010156



52013204

Test mıknatısı



**Valf konnektörüne sahip AC ve DC-PNP versiyonları**

Arıza	Neden	Ölçüm
Yeşil ışık yanmaz	Voltaj beslemesi yok	Konnektör, kablo ve voltaj beslemesini kontrol edin
Kırmızı ışık yanıp söner	Yük-akım devresinde aşırı yük veya kısa devre	Kısa devreyi düzeltin Maksimum yük akımını 350 mA altına indirin
	Dahili sensör hatası veya sensör paslanmış	Cihazı değiştirin

**M12x1 konnektöre sahip DC-PNP versiyonları**

Arıza	Neden	Ölçüm
Kırmızı ışık yanar (DC-PNP)	Yük-akım devresinde aşırı yük veya kısa devre	Kısa devreyi düzeltin
		Maksimum yük akımını 250 mA altına indirin
Yeşil ışık yanmaz	Voltaj beslemesi yok	Konnektör, kablo ve voltaj beslemesini kontrol edin
Kırmızı ışık yanıp söner (2 Hz)	Dahili sensör hatası veya sensör paslanmış	Cihazı değiştirin

**NAMUR**

Arıza	Neden	Ölçüm
Yeşil ışık yanıp sönmüyor	Anahtarlama yükselticisinden voltaj besleme yok	Konnektör, kablo ve voltaj beslemesini kontrol edin
Kırmızı ışık yanıp söner (0,3 Hz)	Dahili sensör hatası veya sensör paslanmış	Cihazı değiştirin

Teknik Bilgiler

TI00328F Liquiphant FTL50, FTL50H, FTL51, FTL51H

Çalıştırma Talimatı

BA00141F FEL50A, PROFIBUS PA

Güvenlik Notları

XA00031F	CE Ex	II 1/2 G,	Ex d	IIC/IIB
XA00063F	CE Ex	II 1/2 G,	Ex ia/ib	IIC/IIB
XA00064F	CE Ex	II 1 G,	Ex ia	IIC/IIB
XA00154F	CE Ex	II 1/2 G/D,	Ex ia/ib	IIC/IIB
XA00159F	CE Ex	II 1 G,	Ex ia	IIC/IIB











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