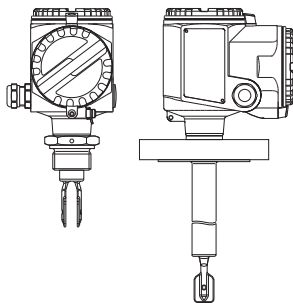


Instrucțiuni de utilizare **Liquiphant M FTL50/51-#####7#**

Detector de nivel punctual



RO- Cuprins

Note privind siguranța	3
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Atenție!

= interzis;
duce la utilizare incorectă sau
distrugere.

RO- Note privind siguranța

Liquiphant M FTL50, FTL51 este proiectat pentru detectarea nivelului punctual în lichide.

În caz de utilizare incorectă, este posibilă apariția unor pericole legate de aplicație.

Detectorul limitei de nivel

Liquiphant M FTL50, FTL51 poate fi instalat, conectat, pus în funcțiune, operat și întreținut

numai de către personal

calificat și autorizat, cu

respectarea strictă a acestor

instrucțiuni de utilizare, a

standardelor în vigoare, a

dispozițiilor legale și, unde este

cazul, a certificatului.

Instalați un întrerupător de

alimentare ușor accesibil în

apropierea dispozitivului.

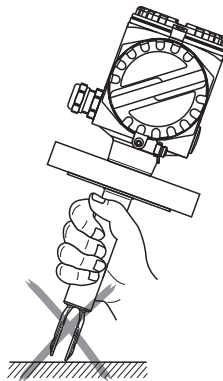
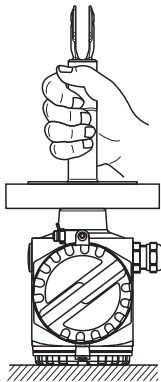
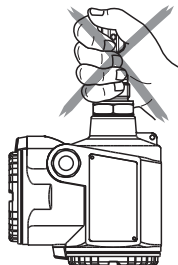
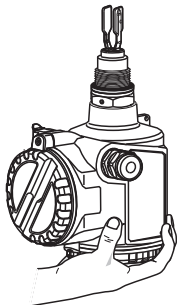
Marcați întrerupătorul de

alimentare ca separator pentru

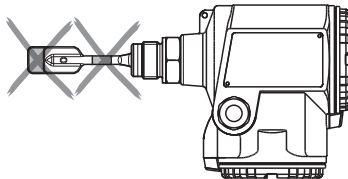
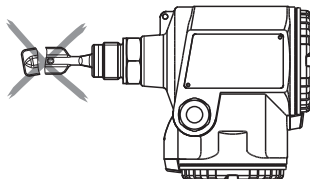
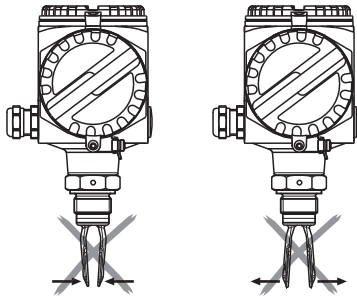
dispozitiv.

RO- Manevrare

Țineți de carcasă, flanșă sau tubul de prelungire.



RO- Nu îndoiți
Nu scurtați
Nu prelungiți



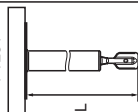


ENDRESS+HAUSER
LIQUIPHANT M

Cod de comandă

FTL5#-##### mm
in

FTL51



*1

A ATEX II 3 G EEx nC II T6, WHG

B ATEX II 3 D T85°C^{*3}

C ATEX II 3 G EEx nA II T6, WHG

ATEX II 3 D T85°C^{*3}

*1, WHG

D ATEX II 1/2 G EEx de IIC T6, WHG

E ATEX II 1/2 G EEx ia IIC T6, WHG

ATEX II 1/2 D T80°C^{*3}

G ATEX II 1/2 G EEx ia IIC T6

ATEX II 1/2 D T80°C^{*3}

H ATEX II 1 G EEx ia IIC T6

I ATEX II 1/2 G EEx de IIC T6

J ATEX II 1 G EEx ia IIC T6, WHG

K ATEX II 1/2 G EEx d IIC T6

L ATEX II 1/2 G EEx d IIC T6, WHG

M NEPSI Ex ia IIC T6

N NEPSI Ex d IIC T6

P FM IS, Cl. I, II, III, Div. 1, Gr. A-G

Q FM XP, Cl. I, II, III, Div. 1, Gr. B-G, E5 => Gr. A-G

R FM NI, Cl. I, Div. 2, Gr. A-D

S CSA IS, Cl. I, II, III, Div. 1, Gr. A-G

T CSA XP, Cl. I, II, III, Div. 1, Gr. A-G

U CSA Utilizare generală

V TIIS Ex ia IIC T3

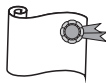
W TIIS Ex d IIB T3

X TIIS Ex ia IIC T6

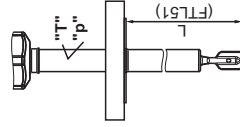
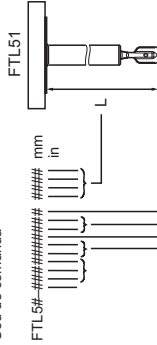
7 TIIS Ex d IIC T3

8 TIIS Ex d IIC T6

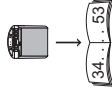
*2

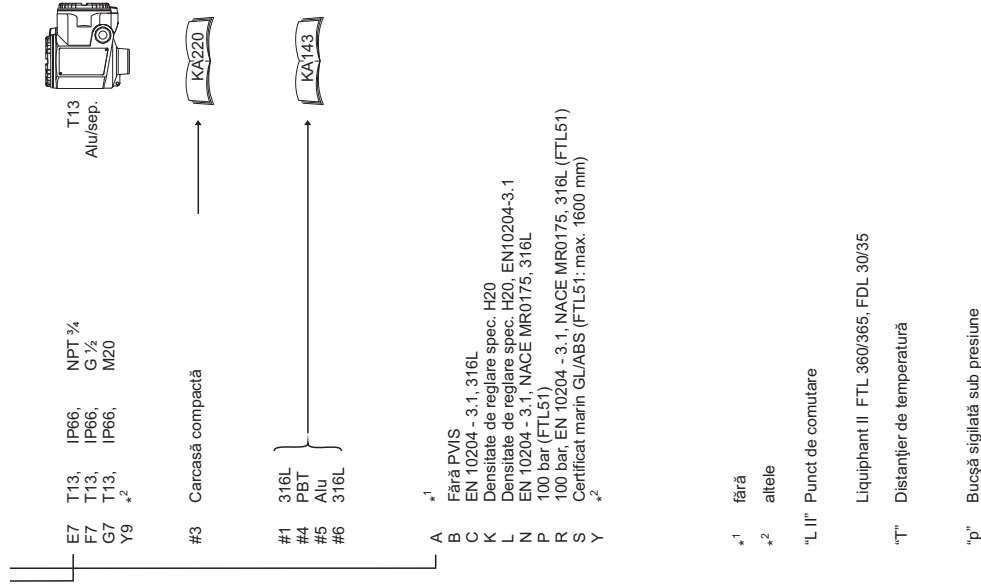


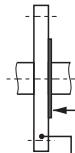
Cod de comandă



	* ² ₁	Ra < 3.2 µm/80 grit (FTL50)
AA	.....	mm, 316L,
BB	.....	mm, AlloyC4,
BE	.....	in, 316L,
CB	.....	in, AlloyC4,
CE	"L II"	316L,
DB	"L II"	AlloyC4,
DE		+ "T" ¹ (FTL50)
IA	* ² ₁	 mm, 316L + "T" ¹
JB	.....	mm, AlloyC4 + "T" ¹
JE	.....	in, 316L + "T" ¹
KB	.....	in, AlloyC4 + "T" ¹
KE	"L II"	316L + "T" ¹
LB	"L II"	AlloyC4 + "T" ¹
LE		+ "P" ¹ (FTL50)
QA	* ² ₁	 mm, 316L + "P" ¹
RB	.....	mm, AlloyC4 + "P" ¹
RE	.....	in, 316L + "P" ¹
SB	.....	in, AlloyC4 + "P" ¹
SE	"L II"	316L + "P" ¹
TB	"L II"	AlloyC4 + "P" ¹
TE		+ "P" ¹
YY	* ²	FEL50A, PROFIBUS PA
A	1	FEL51, 19...253 V AC
2	2	FEL52, 10... 55 V DC, PNP
4	4	FEL54, 19...253 V AC; 19...55 V DC, DPDT
5	5	FEL55, 11... 36 V DC, 8/16 mA
6	6	FEL56, NAMUR, L-H
7	7	FEL57, PFM
8	8	FEL58, NAMUR, H-L
9	9	







ANSI B 16.5

AA2	1 1/4"	150 lbs	RF	316/316L
AB2	1 1/2"	300 lbs	RF	316/316L (FTL51)
AC2	1 1/2"	150 lbs	RF	316/316L
AD2	1 1/2"	300 lbs	RF	316/316L (FTL51)
AE2	2"	150 lbs	RF	316/316L
AE5	2"	150 lbs	RF, Alloy C4 > 316/316L	
AE6	2"	300 lbs	RF, Alloy C22 > 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)
AS2	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

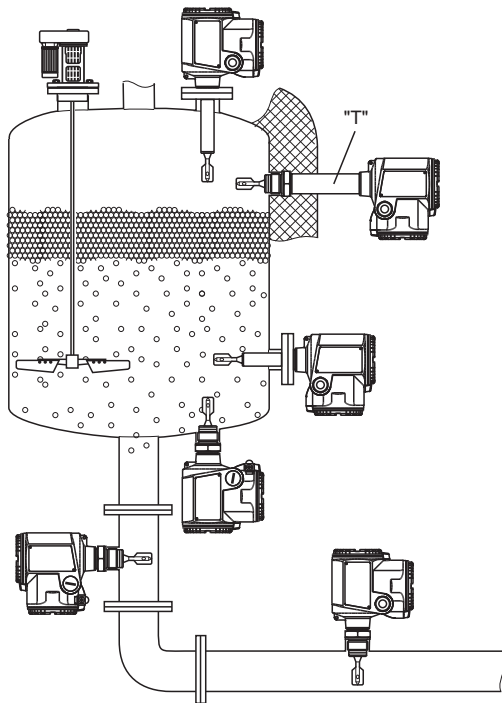
B12	DN80,	PN100 A,	316L (FTL51)
B82	DN25,	PN25/40 A,	316L
CA2	DN32,	PN6 B1,	316L
CA5	DN32,	PN6,	AlloyC4 >316L
CA6	DN32,	PN6,	AlloyC22 >316L
CE2	DN50,	PN6 B1,	316L
CE5	DN50,	PN6,	AlloyC4 >316L
CE6	DN50,	PN6,	AlloyC22 >316L
CG2	DN50,	PN25/40 B1,	316L
CG5	DN50,	PN25/40,	AlloyC4 >316L
CG6	DN50,	PN25/40,	AlloyC22 >316L
CJ2	DN50,	PN100 B2,	316L (FTL51)
CN2	DN80,	PN25/40 B1,	316L
CN5	DN80,	PN25/40,	AlloyC4 >316L
CN6	DN80,	PN25/40,	AlloyC22 >316L
CQ2	DN100,	PN10/16 B1,	316L
CQ5	DN100,	PN10/16,	AlloyC4 >316L
CQ6	DN100,	PN10/16,	AlloyC22 >316L
C12	DN80,	PN100 B2,	316L (FTL51)
C82	DN25,	PN25/40 B1,	316L
C85	DN25,	PN25/40,	AlloyC4 >316L
C86	DN25,	PN25/40,	AlloyC22 >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

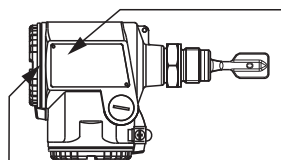
JIS B2220

KA2	10K 25,	RF,	316L
KC2	10K 40,	RF,	316L
KE2	10K 50,	RF,	316L
KE5	10K 50,	RF,	AlloyC4 >316L
KE6	10K 50,	RF,	AlloyC22 >316L
KL2	10K 80,	RF,	316L
KP2	10K 100,	RF,	316L

RO- Aplicație

Detectarea nivelului punctual în
fluide

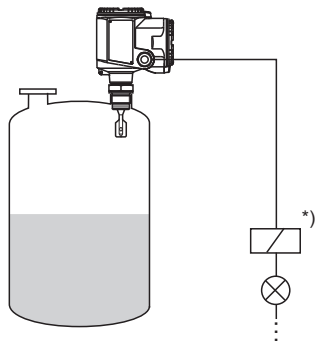




Insertii electronice

Cod de comandă:
FTL5# - # ### # # # #

FEL51
FEL52
FEL54

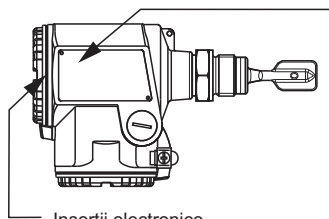


*) Sarcină externă

RO-Sistem de măsurare
pentru conexiune directă

RO- Sistem de măsurare

pentru conexiune prin unitatea de
comutare

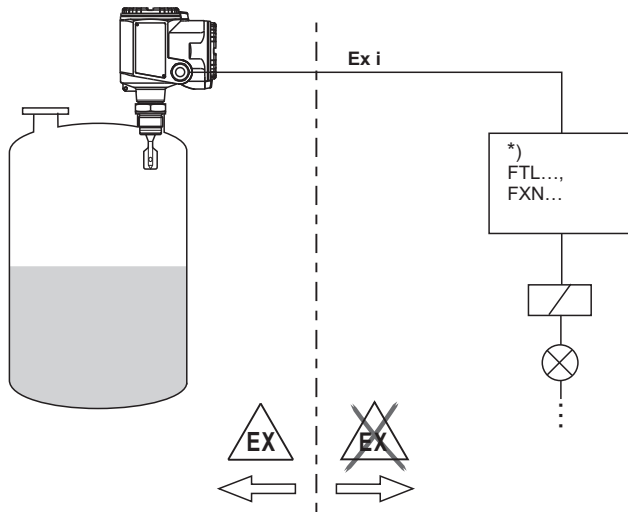


Insertii electronice

Cod de comandă:

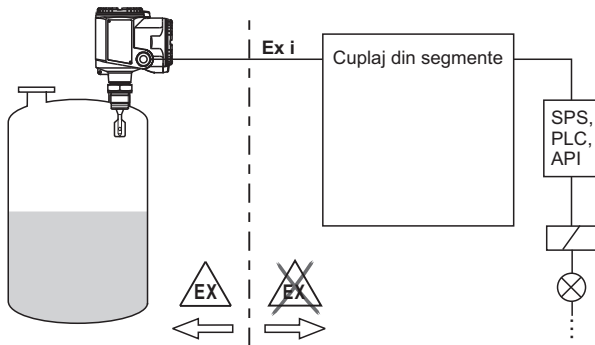
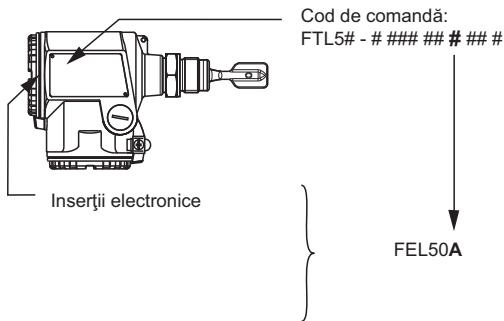
FTL5# - # ### # # # #

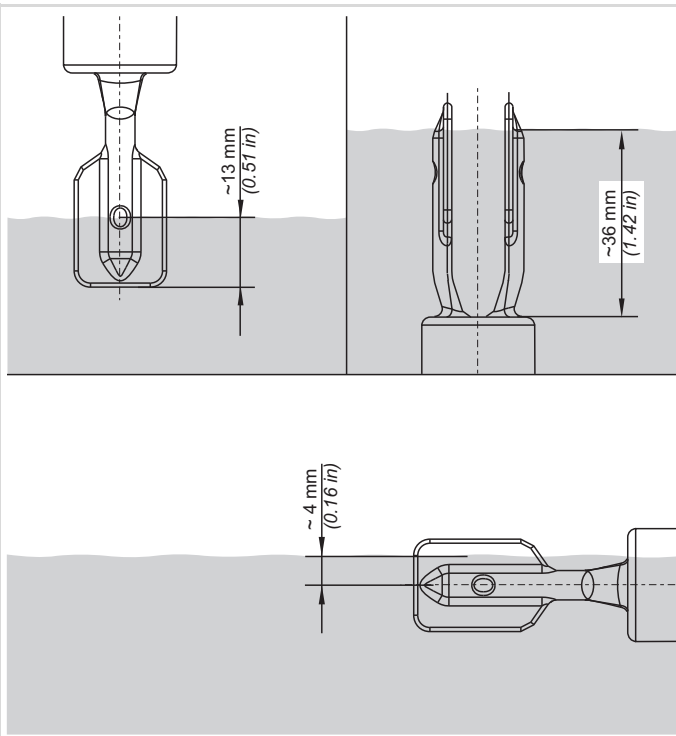
FEL55
FEL56
FEL57
FEL58



*) Unitate de comutare, PLC, amplificator de izolare

RO- Sistem de măsurare
pentru conexiune la PROFIBUS PA



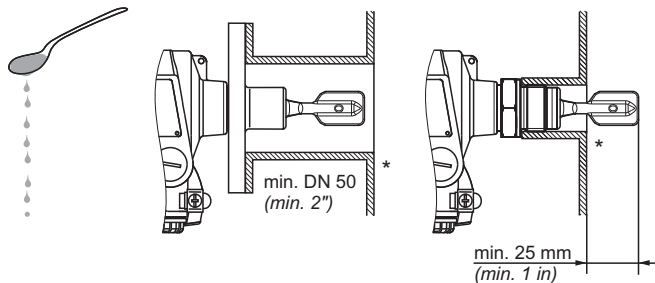


RO- Instalare

Punctul de comutare depinde de poziția de montare

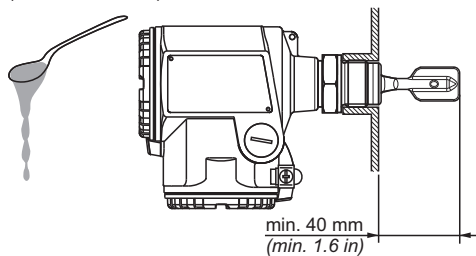
RO- Exemple de montare
în funcție de vâscozitatea
lichidului ν

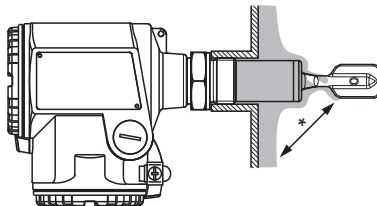
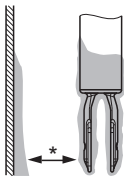
$\nu = 0 \dots 2000 \text{ mm}^2/\text{s}$
($\nu = 0 \dots 2000 \text{ cSt}$)



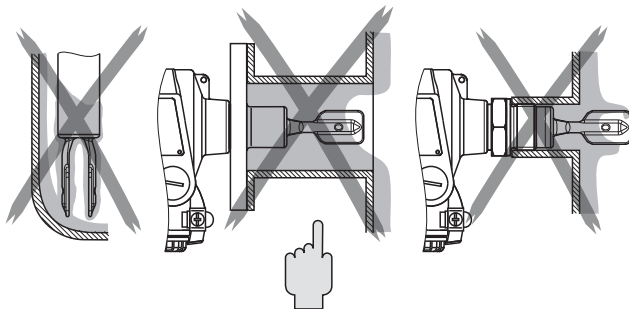
*debavurare

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



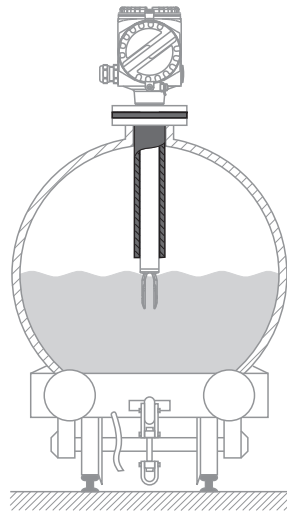
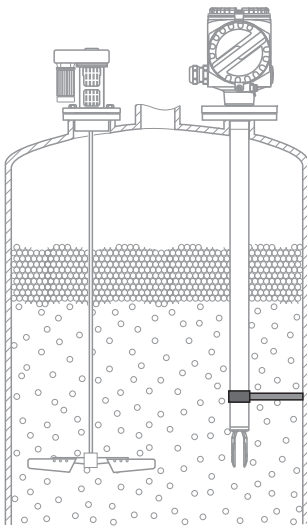


*Distanță

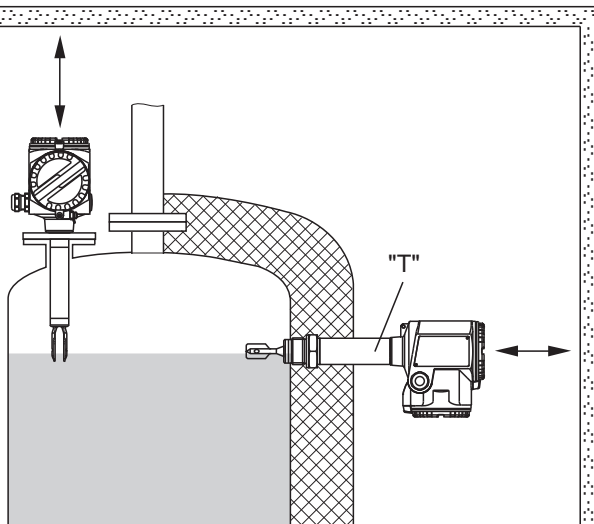


RO- Luați în calcul acumulările.
Lamela nu trebuie să intre în
contact cu acumulările.

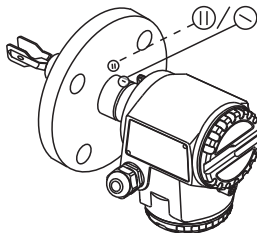
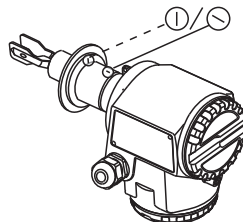
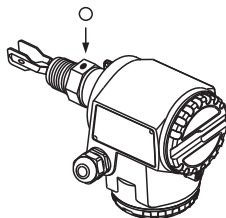
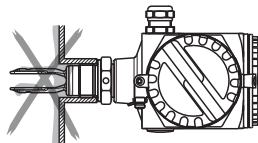
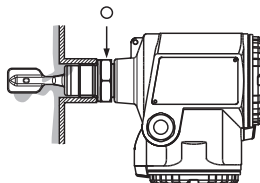
RO- În cazurile de susținere a forțelor dinamice



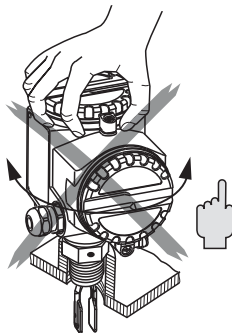
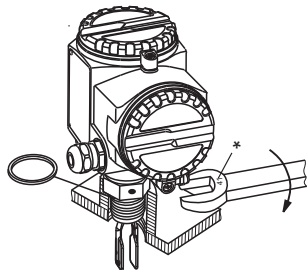
"T" = cu distanțier de temperatură pentru rezervoare izolate



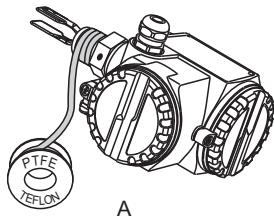
RO- Orientarea dinților lamelei:
Marcaj deasupra sau dedesubt



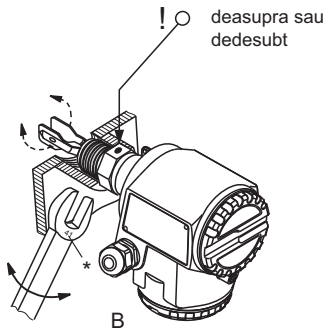
G $\frac{3}{4}$, 32 mm (1 $\frac{1}{4}$ ")*
G 1, 41 mm (1 $\frac{5}{8}$ ")*



NPT $\frac{3}{4}$, R $\frac{3}{4}$, G $\frac{3}{4}$, 32 mm (1 $\frac{1}{4}$ ")*
NPT 1, R 1, G 1, 41 mm (1 $\frac{5}{8}$ ")*



A

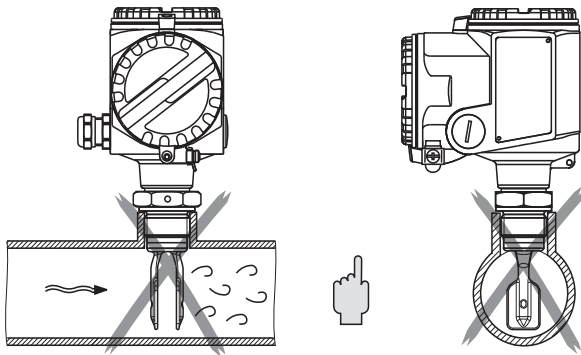
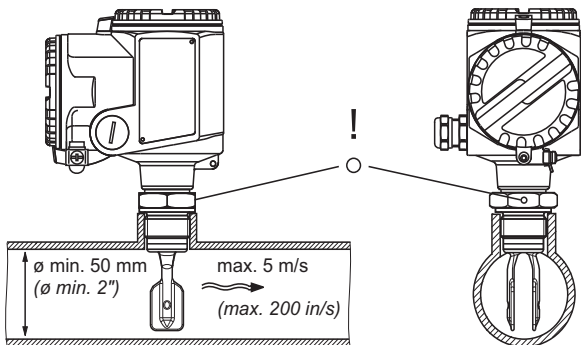


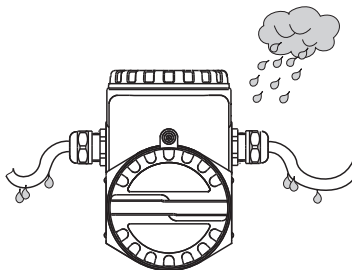
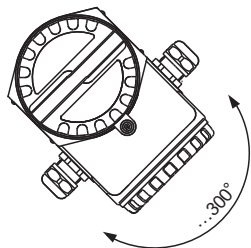
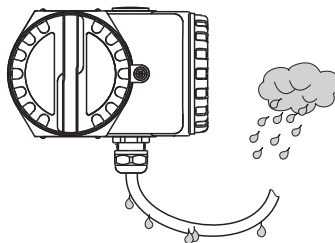
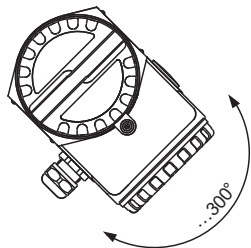
B

RO- Înfiletați Liquiphant în conexiunea de proces.

Nu utilizați carcasa pentru a roti.

RO- Orientare în conducte:
Marcaj în direcția de curgere



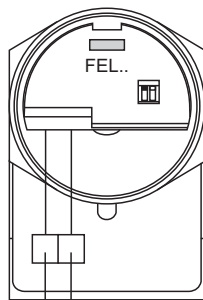


RO- Setare

Deschideți compartimentul
blocului electronic

①.

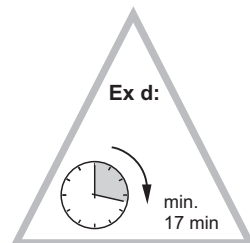
FTL50, FTL51



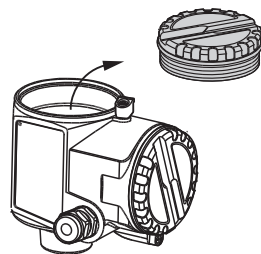
U = 0 V

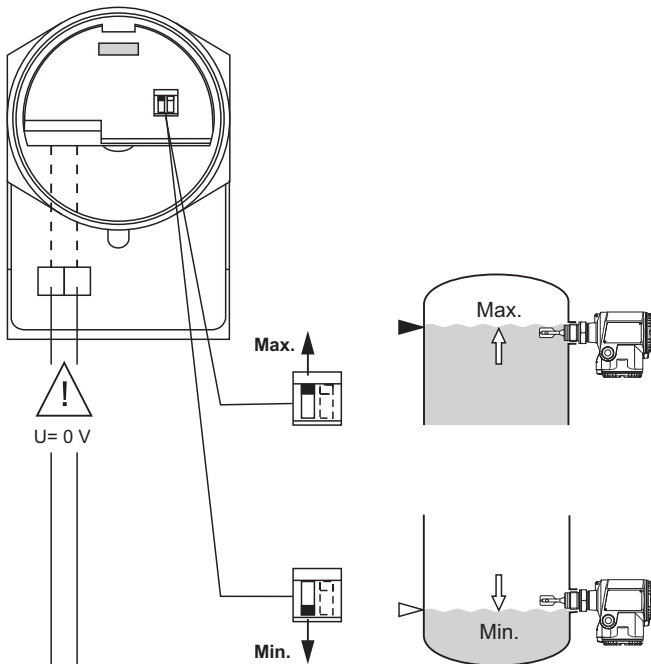


②.



③.

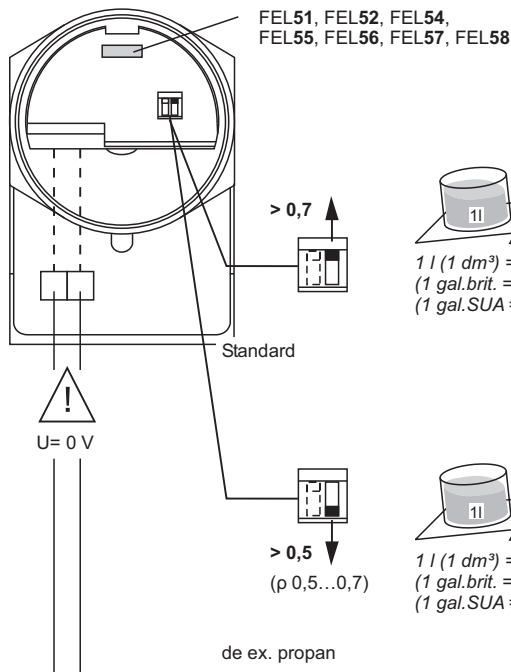


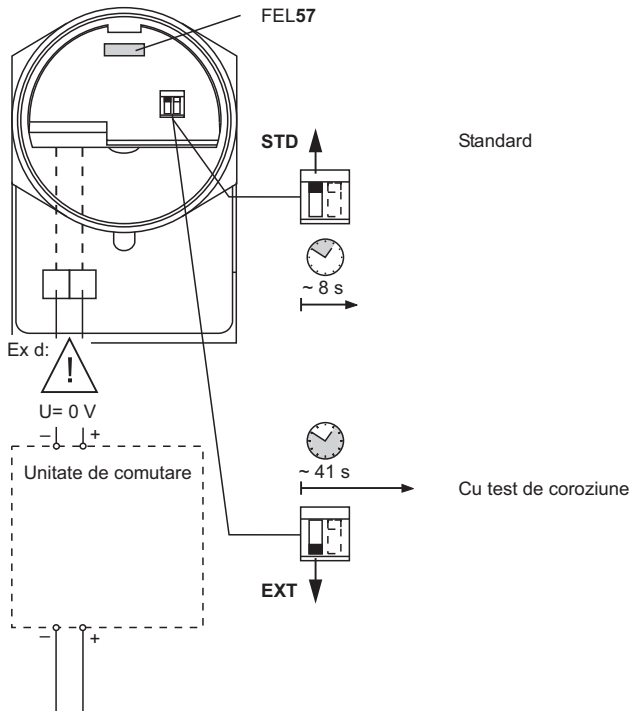


RO- Mod protecție intrinsecă minim/
maxim

RO- Densitate lichid.

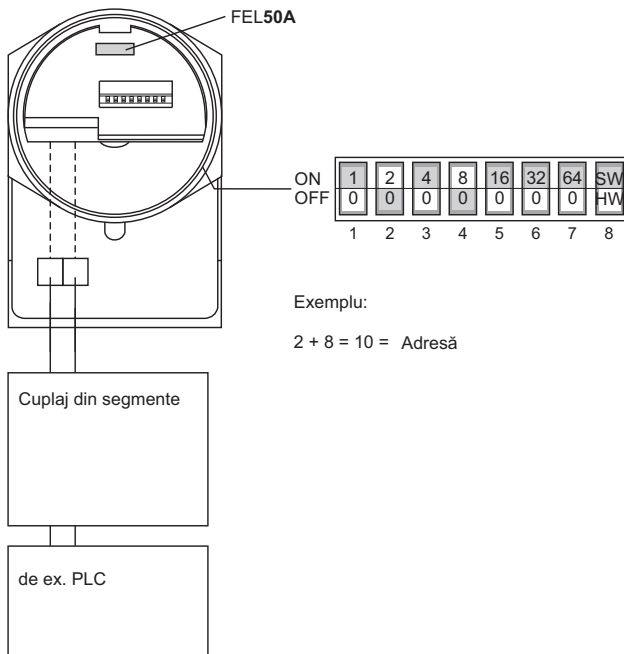
Densitatea ρ măsurată în g/cm^3
sau în kg/l .

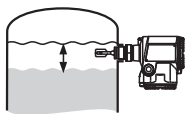




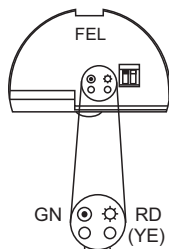
RO- Autotest FEL57
 (consultați paginile 46 și 47, și
 unitatea de comutare pentru
 secvență)

RO- Setarea adresei dispozitivului
(Setarea parametrilor, consultați
BA141F)





Nivel variabil



LED-uri

● Stare de așteptare

☀ Stare de comutare

☀ FEL57, FEL50A: acoperire

☀ activat

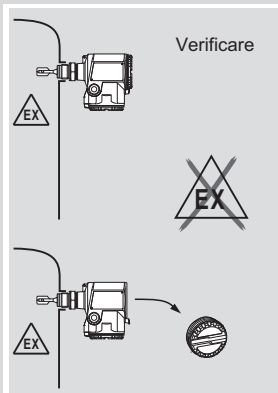
☀ luminează intermitent

● dezactivat

➡ Semnal de ieșire

⚡ Defecțiune

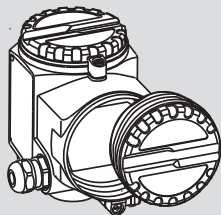
RO- Semnale luminoase



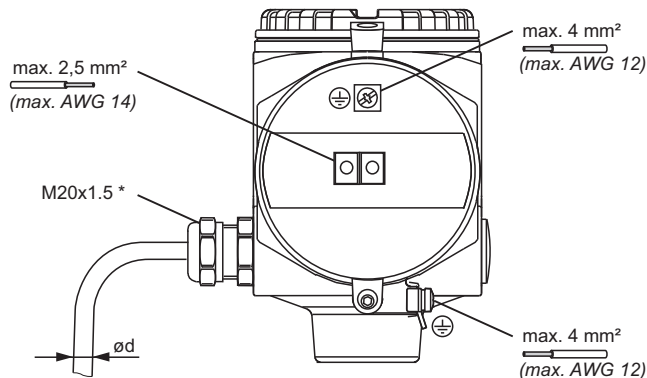
*Intrare de cablu

Alamă placată cu nichel:

$\varnothing d = 7 \dots 10,5 \text{ mm}$ (0,28...0,41 in)

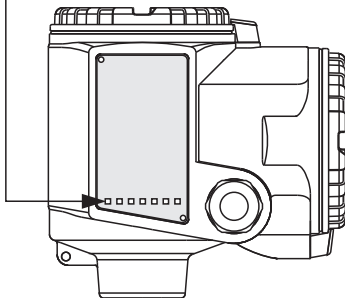


Respectați reglementările naționale!

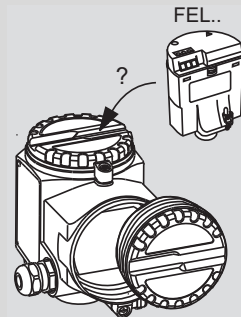


Consultați plăcuța
de identificare

☒ FEL..

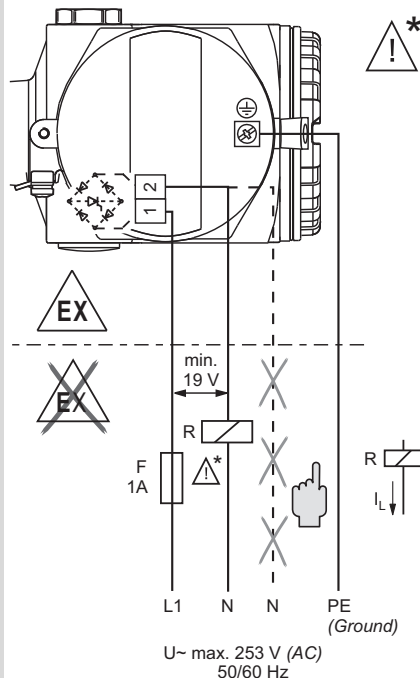


RO- Inserție electronică integrată



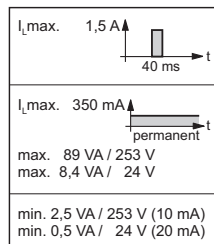
RO- Conexiuni FEL51

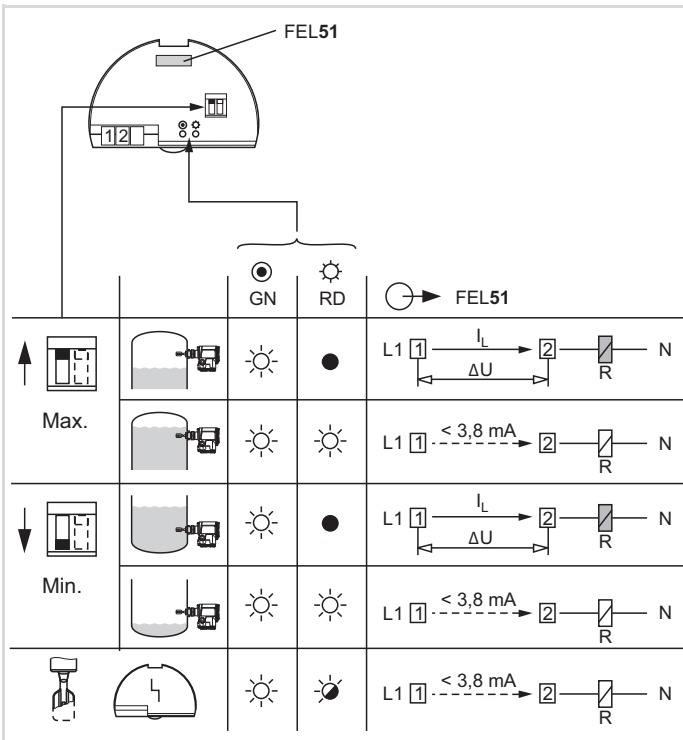
Conexiune c.a. prin două cabluri



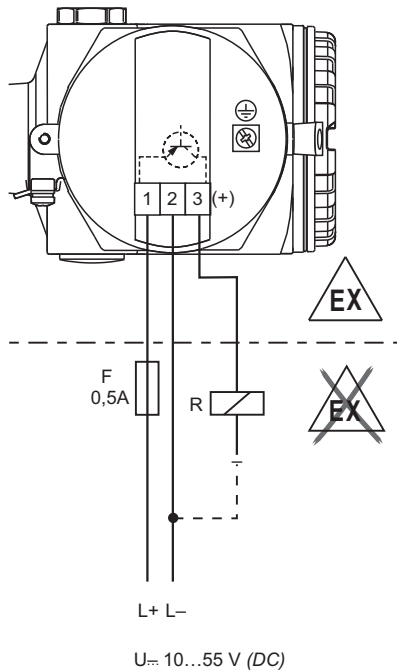
Sarcina externă R **trebuie** să fie conectatăbe connected

 Distrugere



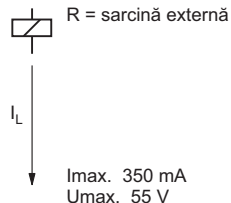

 ΔU_{FEL51} max. 12 V

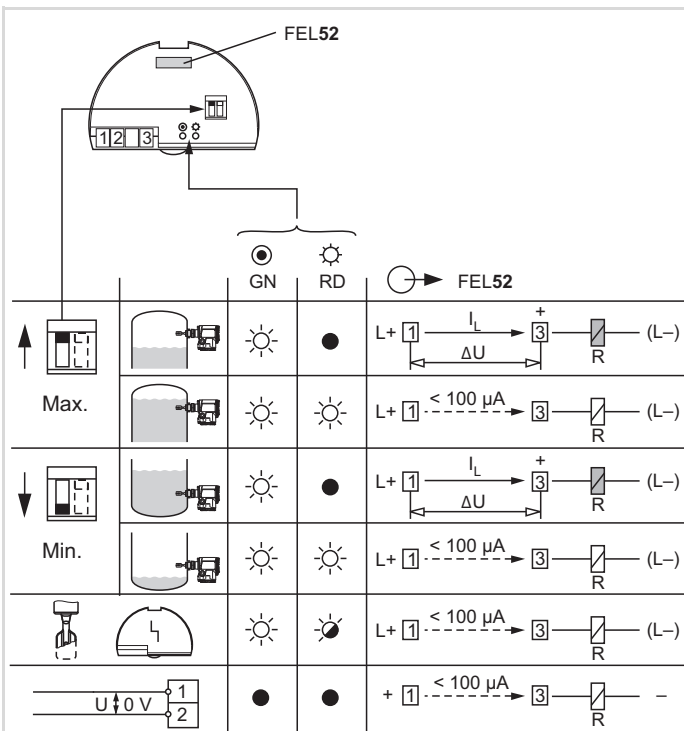
RO- Conexiuni FEL52
Conexiune c.c. (PNP)



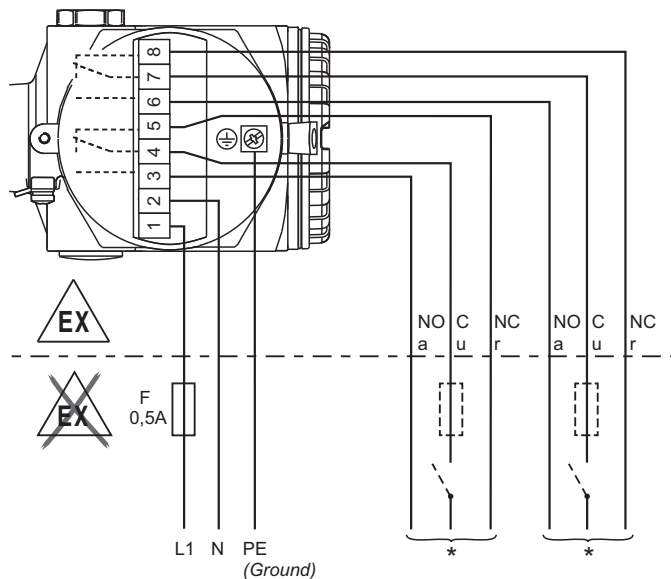
și pentru module DI

EN 61131-2




 $\Delta U_{FEL52} \text{ max. } 3 V$

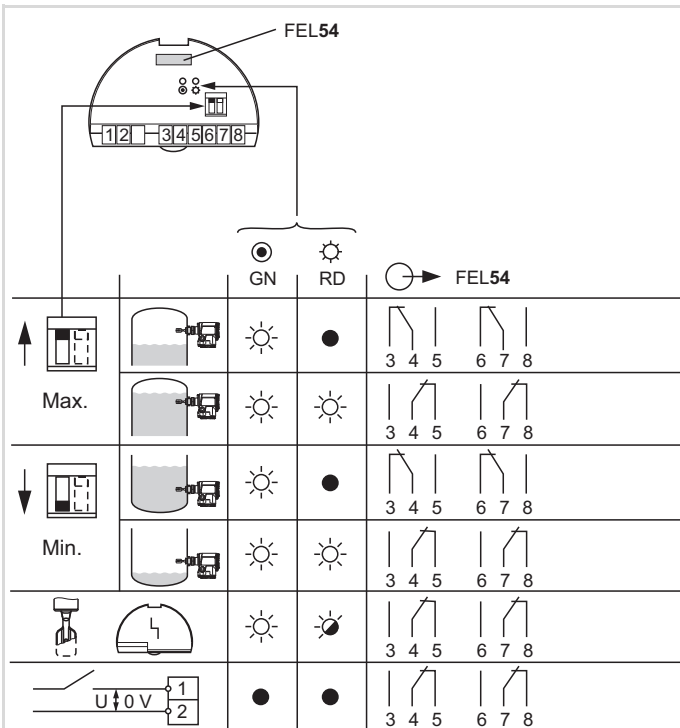
RO- Conexiuni FEL54
 Conexiune universală
 Ieșire releu



$U_{\sim} 19...253 \text{ V (AC)}$

$U_{\dots} 19... 55 \text{ V (DC)}$
 L+ L-
 L+ L-
 L+ L-

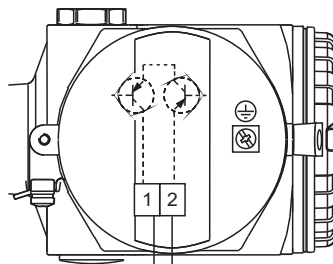
$\left\{ \begin{array}{l} U_{\sim} \text{ max. } 253 \text{ V, } I_{\sim} \text{ max. } 6 \text{ A} \\ P_{\sim} \text{ max. } 1500 \text{ VA, } \cos \varphi = 1 \\ * \quad P_{\dots} \text{ max. } 750 \text{ VA, } \cos \varphi > 0,7 \\ I_{\dots} \text{ max. } 6 \text{ A, } U_{\dots} < 30 \text{ V} \\ I_{\dots} \text{ max. } 0,2 \text{ A, } U_{\dots} < 125 \text{ V} \end{array} \right.$



RO- Conexiuni FEL55

Ieșire 8/16 mA

* Locație umedă.



Ex ia



F T 50 mA

Pentru aplicație non-Ex:
Este necesară o siguranță!
Utilizați numai unități de
alimentare cu separație
galvanică sigură (de ex., SELV)!



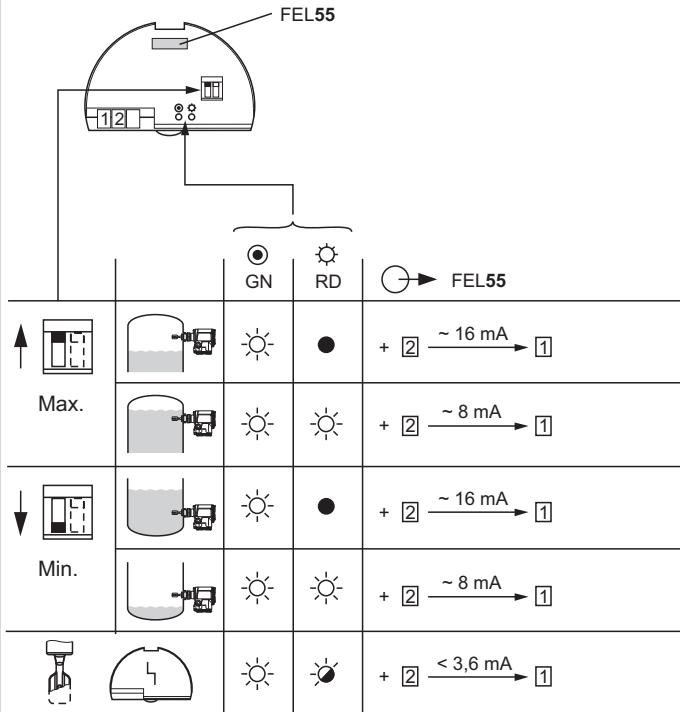
$$R_{\max} = \frac{U - 11 \text{ V}}{16,8 \text{ mA}}$$

PLC,
module AI,
...

$U = 11 \dots 36 \text{ V (DC)}$

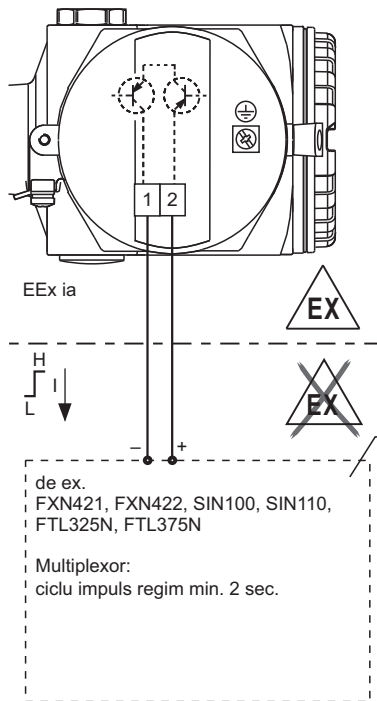
$U = 11 \dots 35 \text{ V (DC)}^*$

4...20 mA
EN 61131-2

RO- Funcție FEL55

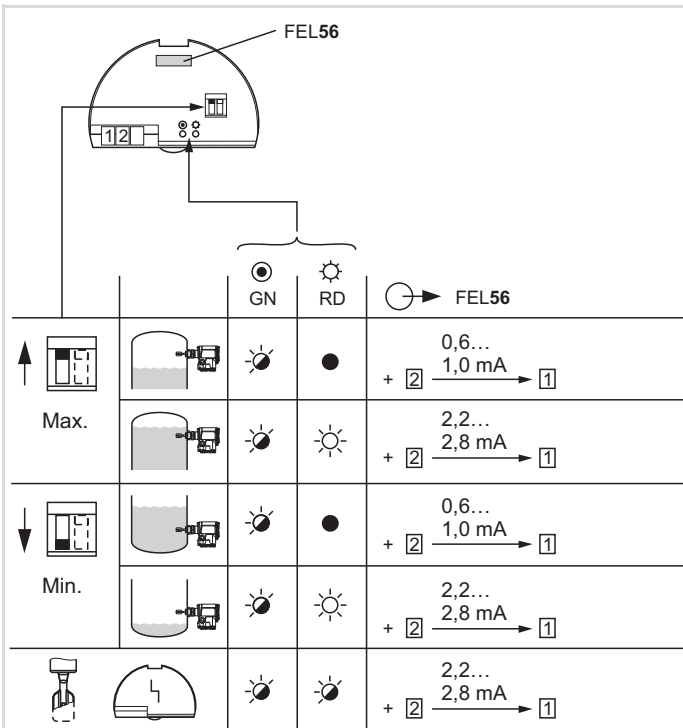
RO- Conexiuni FEL56
Ieșire NAMUR L-H
< 1,0 mA / > 2,2 mA

Alimentare cu energie electrică
c.c.: 8,2 V +/- 20%

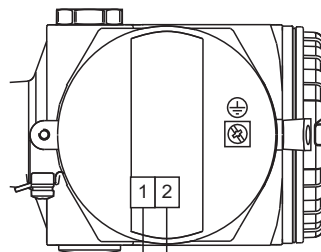


H 2,2...2,8 mA
L 0,6...1,0 mA

Amplificator de izolare conform
NAMUR (IEC 60947-5-6)



RO- Conexiuni FEL 57
 Ieşire PFM
 150 Hz / 50 Hz



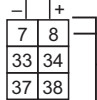
EEx ia



Observaţi funcţia!



H 150 Hz
 L 50 Hz



Nivotester

FTL325P (CH1), FTL320, FTL120Z

Nivotester

FTL325P (CH3)



Nivotester

FTL375P (CH1), FTL370/372, FTL170Z



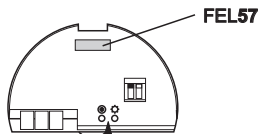
Nivotester

FTL375P (CH2), FTL372, FTL170Z



Nivotester

FTL375P (CH3)



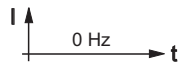
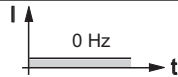
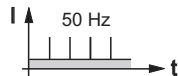
FEL57



GN

YE

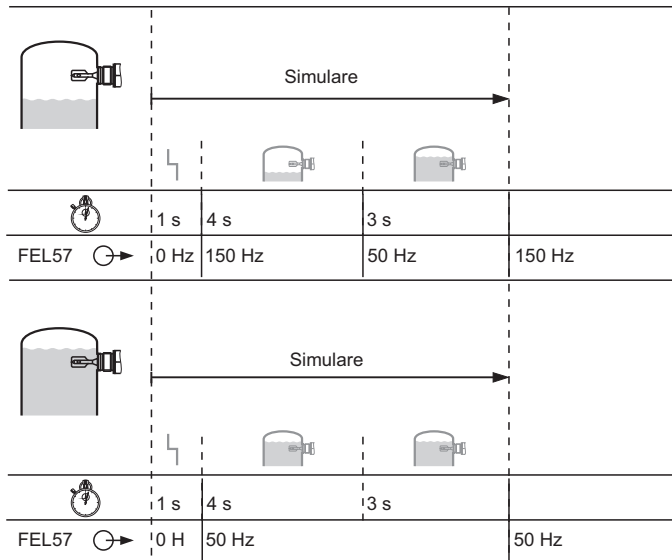
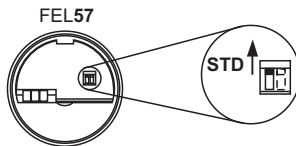
FEL57



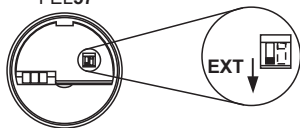
* Comportament la pornire



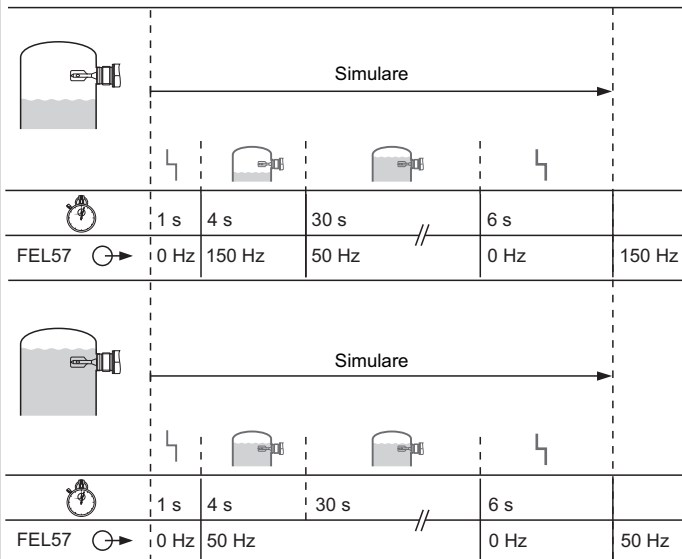
RO- Funcție FEL57 Comportament la pornire STD

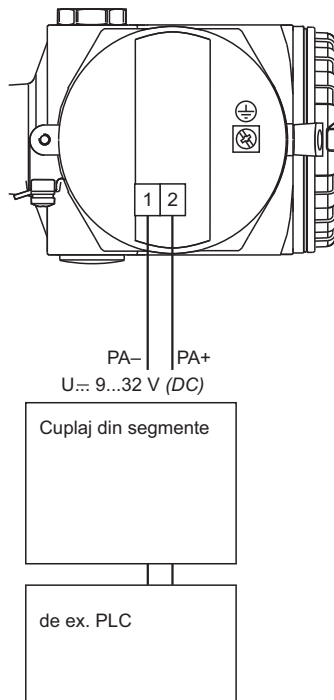


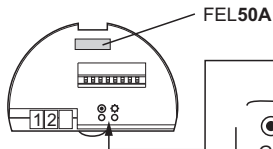
FEL57



RO- Funcție FEL57 Comportament la pornire EXT






FEL50A

GN

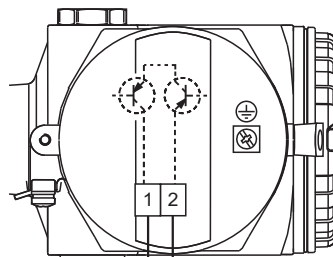
YE

Semnal magistrală PA

neinversat				OUT_D = 0
				OUT_D = 1
inversat				OUT_D = 0
				OUT_D = 1
SPS Commuwin II			—	Comunicare
		—		Stare, consultați BA141F
				../..

RO- Conexiuni FEL58
Ieșire NAMUR H-L
> 2,2 mA / < 1,0 mA

Alimentare cu energie electrică
c.c.: 8,2 V +/- 20%



EEx ia

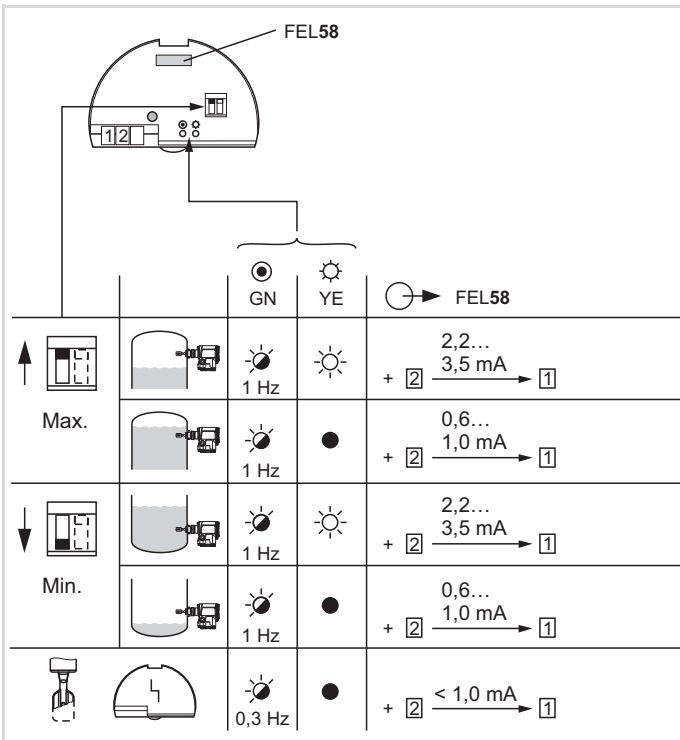


H 2,2...3,5 mA
L 0,6...1,0 mA

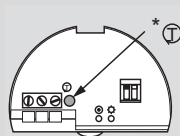
Amplificator de izolare conform
NAMUR (IEC 60947-5-6)

de ex.
FXN421, FXN422, SIN100, SIN110,
FTL325N, FTL375N

Multiplexor:
ciclu impuls regim min. 2 sec.



RO- Buton test de funcționare FEL58
Mod protecție intrinsecă MAX



1. Funcționare normală

GN



1 Hz

YE



1 Hz

+ 2,2...
3,5 mA → 1

GN



1 Hz

YE



1 Hz

+ 0,6...
1,0 mA → 1

2. Apăsați butonul de testare



GN



YE



+ 0 mA → 1

GN



YE



+ 0 mA → 1

3. Eliberați butonul de testare după ~2 sec. de funcționare normală



GN



1 Hz

YE



1 Hz

+ 2,2...
3,5 mA → 1

GN



1 Hz

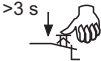
YE

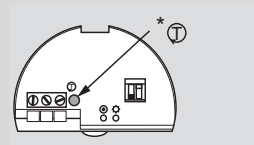


1 Hz

+ 0,6...
1,0 mA → 1

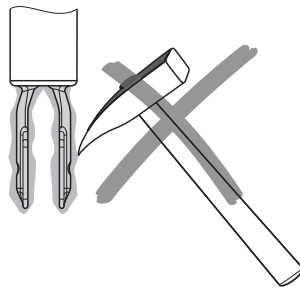
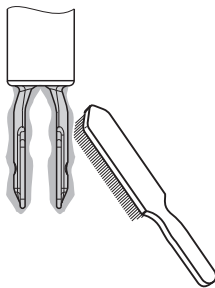
RO- Buton test de funcționare FEL58
Mod protecție intrinsecă MIN

		
1. Funcționare normală	GN YE   1 Hz + 2,2... 3,5 mA + 2 → 1	GN YE   1 Hz + 0,6... 1,0 mA + 2 → 1
2. Apăsați butonul de testare  >3 s	GN YE   + 0 mA + 2 - - - - - → 1	GN YE   + 0 mA + 2 - - - - - → 1
3. Eliberați butonul de testare după ~2 sec. de funcționare normală 	GN YE   1 Hz + 2,2... 3,5 mA + 2 → 1	GN YE   1 Hz + 0,6... 1,0 mA + 2 → 1

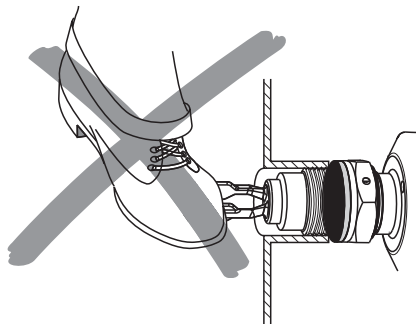


RO- Întreținere, curățare

Eliminarea încrustării grosiere



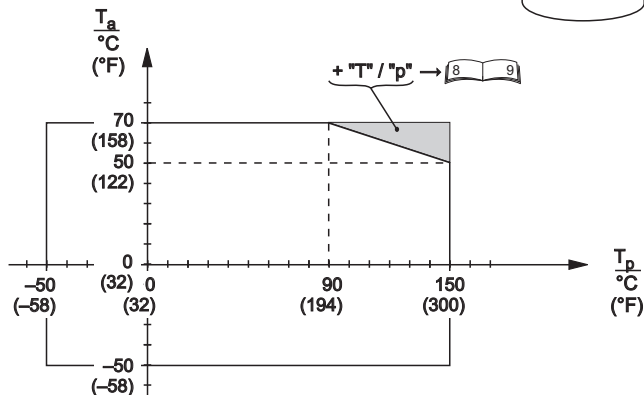
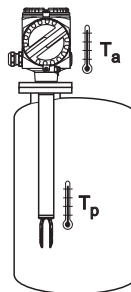
Nu utilizați ca treaptă!



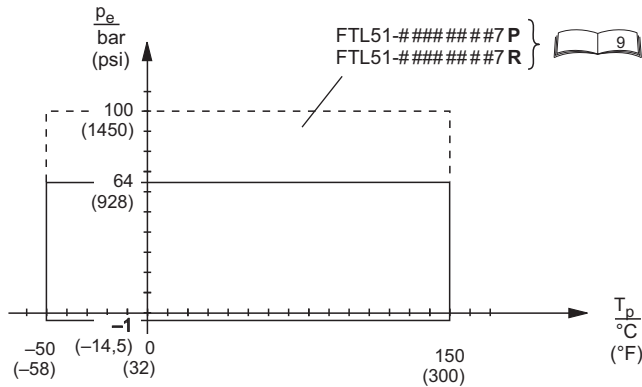
RO- Date tehnice

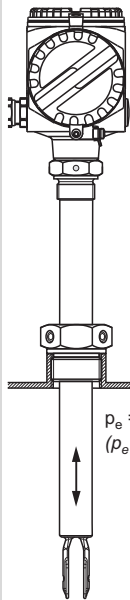
Temperatură ambiantă T_a

Temperatură de proces T_p



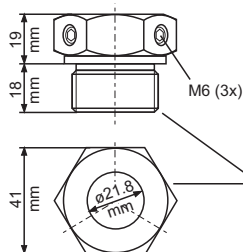
RO- Presiune de proces p_e
Temperatură de proces T_p



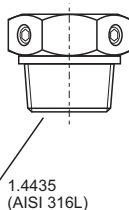


$p_e = 0 \text{ bar}$
($p_e = 0 \text{ psi}$)

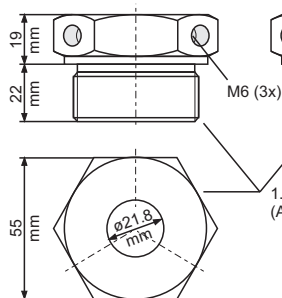
G 1
52003978



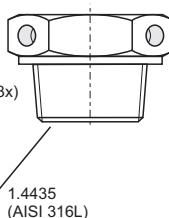
NPT 1
52003979



G 1½
52003980



NPT 1½
52003981



RO- Accesorii

Manșoane culisante
pentru funcționare nepresurizată

consultați:

KA00151F (G 1, NPT 1)

KA00152F (G 1½, NPT 1½)

TI00328F FTL50(H), FTL51(H)

TI00354F FTL70, FTL71

100 mm = 3,94 in

RO- Manşoane culisante de înaltă presiune

consultați:

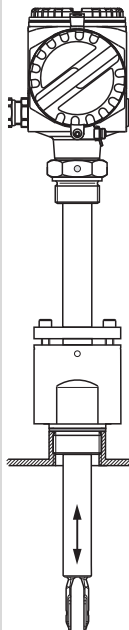
KA00153F (G 1, NPT 1)

KA00154F (G 1½, NPT 1½)

TI00328F FTL50(H), FTL51(H)

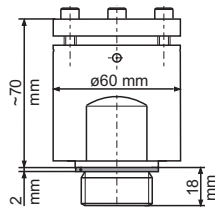
TI00354F FTL70, FTL71

100 mm = 3,94 in



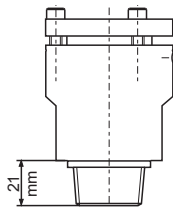
G 1

1.4435 (AISI 316L)
52003663



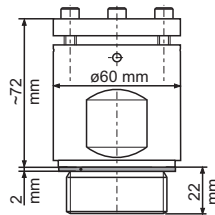
NPT 1

1.4435 (AISI 316L)
52003667



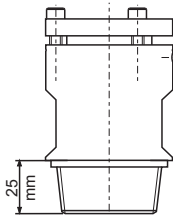
G 1½

1.4435 (AISI 316L)
52003665

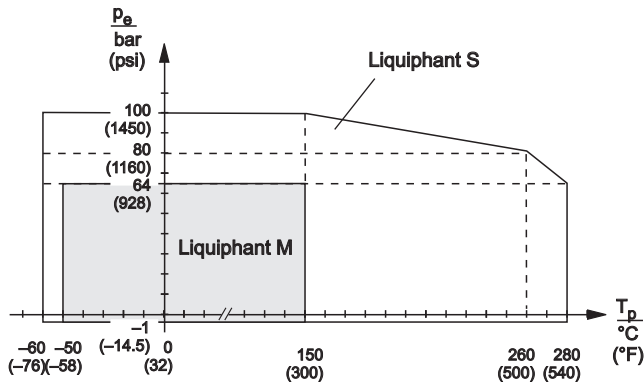


NPT 1½

1.4435 (AISI 316L)
52003669



RO- Manșoane culisante de înaltă presiune:
Presiune de proces p_e
Temperatură de proces T_p



Defecțiune	Cauză	Soluție
Nu comută	Fără alimentare	Verificați alimentarea
	Linie de semnal defectuoasă	Verificați linia de semnal
	Insertie electronică - FEL51 defectuoasă conectată direct la L1 și N	Schimbare - conectați întotdeauna FEL51 prin sarcina externă
	Densitatea lichidului prea scăzută	Setați densitatea la > 0,5 la insertia electronică
	Lamelă încrustată	Curățați lamela
	Lamelă corodată (Indicație pe FEL: se aprinde intermitent în roșu/galben; FEL58: se aprinde intermitent în verde 0,3 Hz)	Schimbare lamelă și conexiune de proces
	FEL51: rezistența internă a releului conectat prea mare	Conectați releul adecvat
	FEL51: menținerea curentului releului conectat la o intensitate prea scăzută	Rezistență conectată în paralel cu releul
	FEL54: contacte sudate împreună (după scurtcircuit)	Schimbare FEL54; puneți siguranța în circuitul de contact
Comutare incorectă	Mod protecție intrinsecă Min/Max setat incorect	Setați modul corect la insertia electronică
Comutare defectuoasă sporadică	Spumă groasă grea, condiții foarte turbulente, lichid spumant	Montați Liquiphant în țeava de bypass
	RFI extrem	Utilizați un cablu ecranat
	Vibrație extremă	Decuplați, amortizați, rotiți lamela la 90°
	Apă în carcasă	Strângeți bine capacul și presgarnitura de cablu
	FEL52: ieșire suprasolicitată	Reduceți sarcina, capacitanța (cablului)
Comutare incorectă după întreruperea alimentării electrice	FEL57, comportament în timpul testării pornirii (test funcțional)	Observați comportamentul de comutare al FEL57; după întreruperea alimentării, blocați comanda instalației până la 45 sec.

RO- Supliment depanare

În cazul în care comportamentul de comutare al lamelei este anormal, frecvența lamelei poate fi măsurată la PINUL 4 al prizei de diagnosticare.

În cazul inserțiilor electronice FEL51/52/54/55/56/57/58, este o vibrație sinusoidală a cărei amplitudine face posibilă determinarea stării lamelei.

Cu FEL50A, este posibilă numai măsurarea frecvenței lamelei datorită unui semnal cu impulsuri dreptunghiulare.

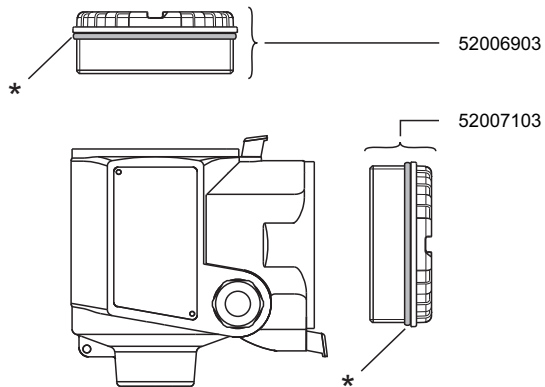
RO- Piese de schimb

Insertii electronice



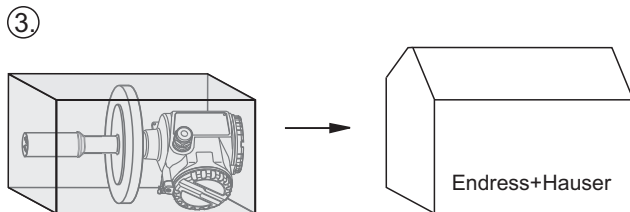
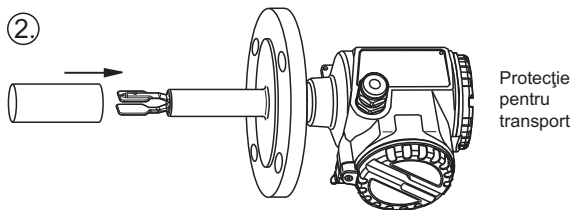
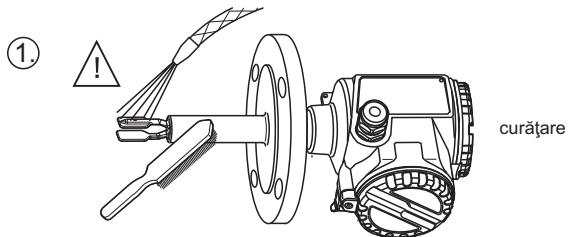
FEL51	52002304
FEL52	52002305
FEL54	52002306
FEL55	52002307
FEL56	52002308
FEL57	52002309
FEL58	52006454
FEL50A	52010527

Specificație privind instalarea: În timpul instalării, țineți cont de faptul că este posibil ca resursele electrice (insertiile electronice) care sunt alimentate de circuit fără protecție intrinsecă să nu mai fie interconectate cu circuite cu protecție intrinsecă.



* Lubrifiați cu vaselină siliconică

RO- Repararea la Endress+Hauser



Informații tehnice

TI00328F	Liquiphant FTL50, FTL50H, FTL51, FTL51H
TI00426F	Adaptor sudat, nivel și presiune

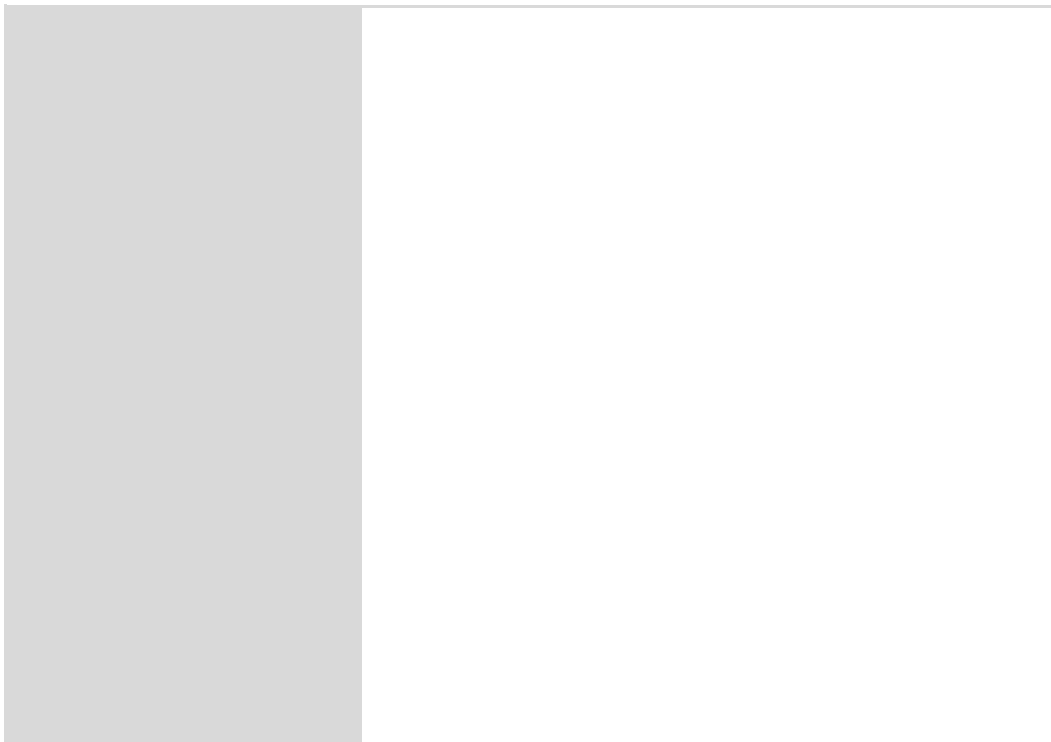
Instrucțiuni de utilizare

BA00141F FEL50A, PROFIBUS PA

Note privind siguranța

XA00031F	CE 	II 1/2 G,	Ex d	IIC/IIB
XA00063F	CE 	II 1/2 G, II 1/2 D,	Ex ia/ib	IIC/IIB
XA00064F	CE 	II 1 G,	Ex ia	IIC/IIB
XA00108F	CE 	II 1/2 G,	Ex de	IIC/IIB
XA00113F	CE 	II 1/2 G,	Ex ia/ib	IIC
XA00114F	CE 	II 1/2 G,	Ex d	IIC
XA00115F	CE 	II 1/2 G,	Ex de	IIC
XA00154F	CE 	II 1/2 G, II 1/2 D,	Ex ia/ib	IIC/IIB
XA00158F	CE 	II 1/2 G,	Ex ia/ib	IIC
XA00159F	CE 	II 1 G,	Ex ia	IIC/IIB
XA00182F	CE 	II 3 G, II 3 D,	Ex nA/nC	IIC/IIIC

RO- Documentație suplimentară





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