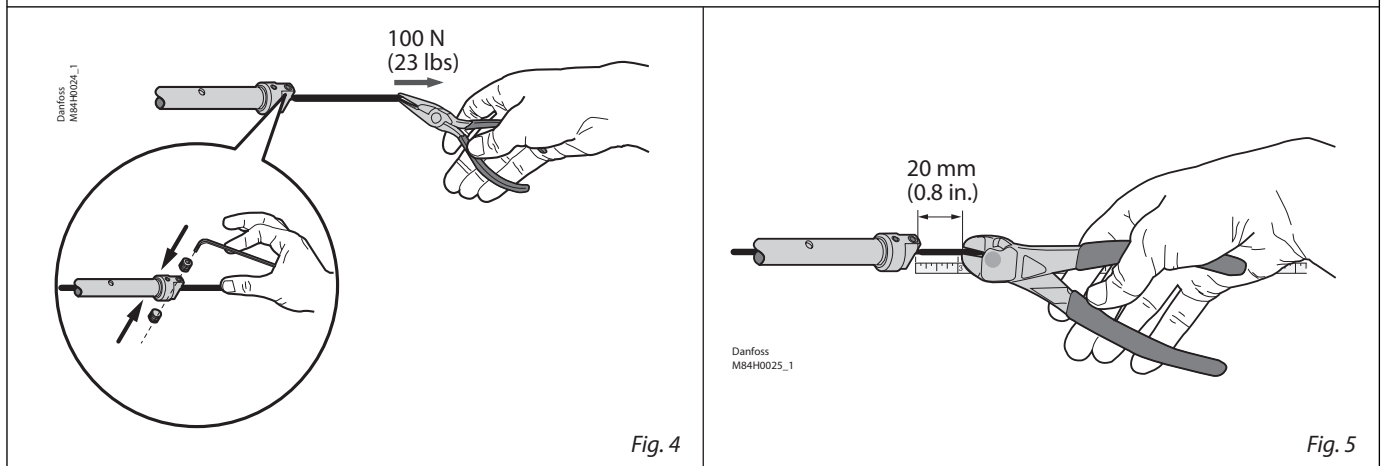
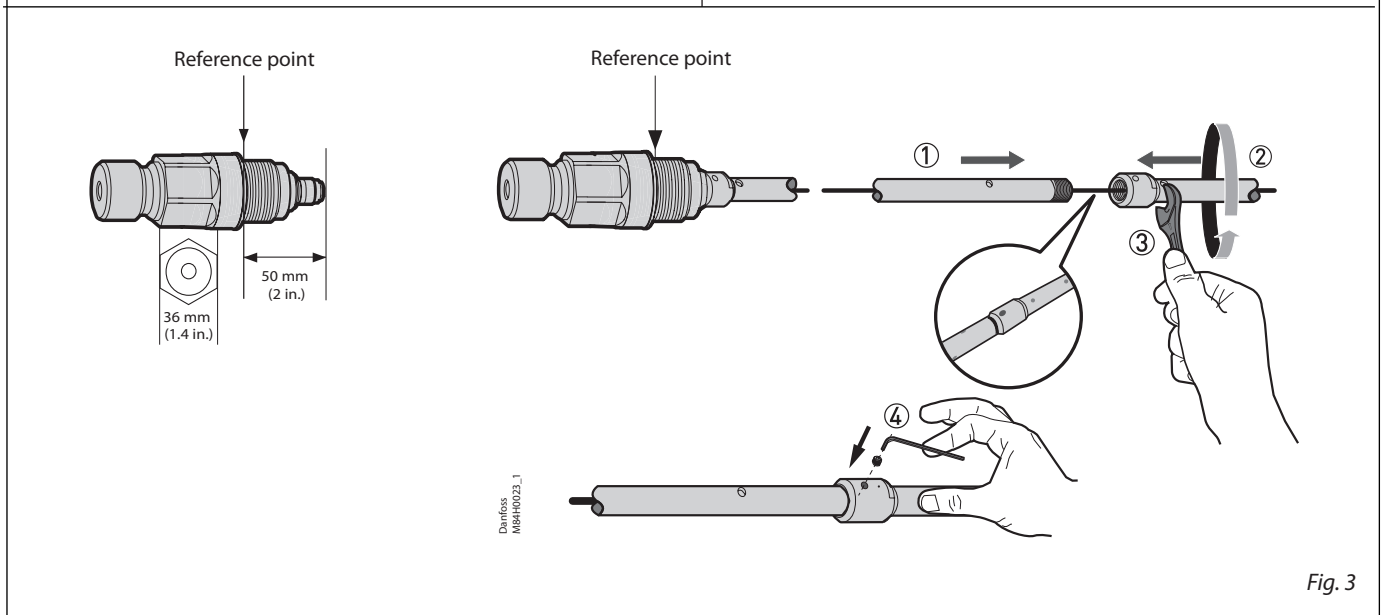
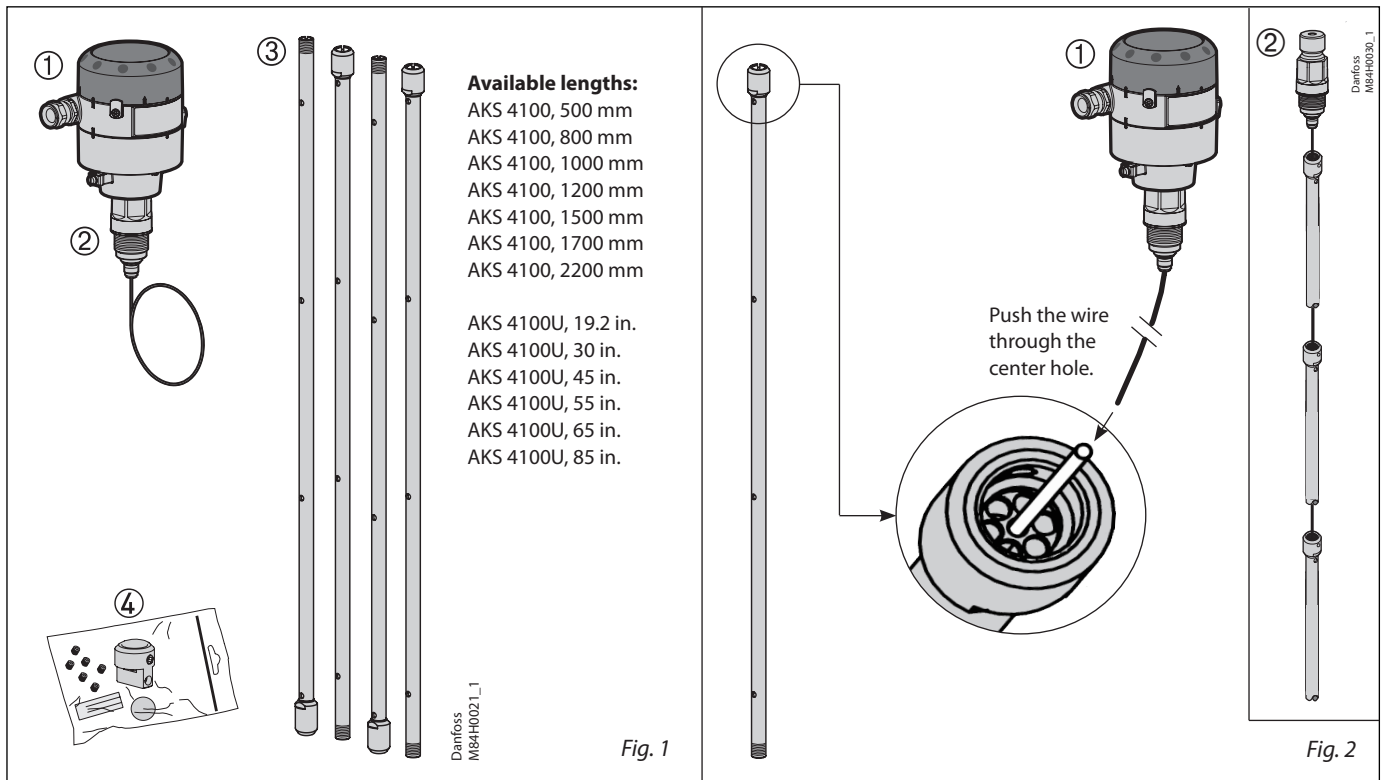
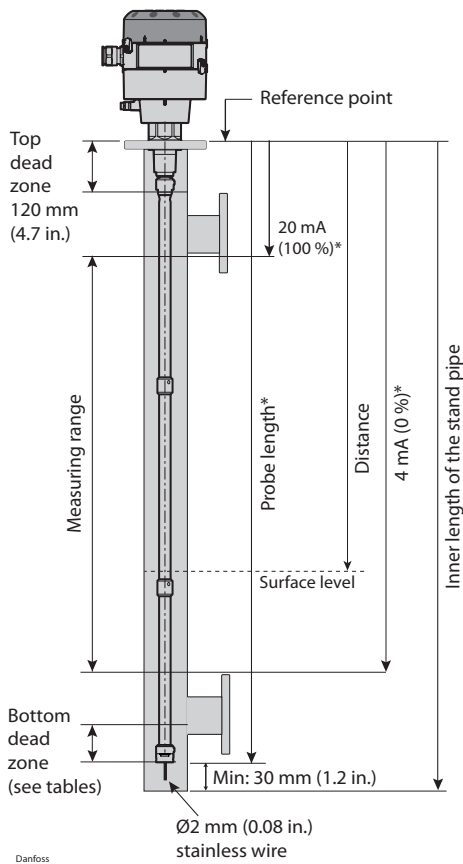


Instruction

Type AKS 4100/4100U Coaxial D14 version



Please note: It is mandatory to input dielectric constant for CO₂ applications.



* Values to be entered into HMI Quick Setup menu and recorded on the setting label. Stick the setting label onto the Signal Converter either inside or outside.

Fig. 6

AKS 4100

Dielectric Constant ϵ_r always set during Quick Setup

Refrigerant	Probe Length		Bottom Dead Zone [mm]	Bottom Dead Zone [in.]
	[mm]	[in.]		
CO ₂	500	19.7	170	6.7
	800	31.5		
	1000	39.4		
	1200	47.2		
	1500	59.1		
	1700	66.9		
	2200	86.6		

Factory setting

Refrigerant	Probe Length		Bottom Dead Zone [mm]	Bottom Dead Zone [in.]
	[mm]	[in.]		
Ammonia	500	19.7	95	3.7
	800	31.5	104	4.1
	1000	39.4	110	4.3
	1200	47.2	116	4.6
	1500	59.1	125	4.9
	1700	66.9	131	5.2
	2200	86.6	146	5.8

Improved Bottom dead zone values after the adjustment of dielectric constant

Refrigerant	Probe Length		Bottom Dead Zone [mm]	Bottom Dead Zone [in.]
	[mm]	[in.]		
Ammonia	500	19.7	80	3.2
	800	31.5		
	1000	39.4		
	1200	47.2		
	1500	59.1		
	1700	66.9		
	2200	86.6		

Factory setting

Refrigerant	Probe Length		Bottom Dead Zone [mm]	Bottom Dead Zone [in.]
	[mm]	[in.]		
HCFC,HFC	500	19.7	115	4.5
	800	31.5	124	4.9
	1000	39.4	130	5.1
	1200	47.2	136	5.4
	1500	59.1	145	5.7
	1700	66.9	151	5.9
	2200	86.6	166	6.5

Improved Bottom dead zone values after the adjustment of dielectric constant

Refrigerant	Probe Length		Bottom Dead Zone [mm]	Bottom Dead Zone [in.]
	[mm]	[in.]		
HCFC,HFC	500	19.7	100	3.9
	800	31.5		
	1000	39.4		
	1200	47.2		
	1500	59.1		
	1700	66.9		
	2200	86.6		

AKS 4100U

Dielectric Constant ϵ_r always set during Quick Setup

Refrigerant	Probe Length		Bottom Dead Zone [in.]	Bottom Dead Zone [mm]
	[in.]	[mm]		
CO ₂	19.2	6.7	170	
	30			
	45			
	55			
	65			
	85			

Factory setting

Refrigerant	Probe Length		Bottom Dead Zone [in.]	Bottom Dead Zone [mm]
	[in.]	[mm]		
Ammonia	19.2	3.73	95	
	30	4.05	103	
	45	4.50	114	
	55	4.80	122	
	65	5.10	130	
	85	5.70	145	

Improved Bottom dead zone values after the adjustment of dielectric constant

Refrigerant	Probe Length		Bottom Dead Zone [in.]	Bottom Dead Zone [mm]
	[in.]	[mm]		
Ammonia	19.2	3.1	80	
	30			
	45			
	55			
	65			
	85			

Factory setting

Refrigerant	Probe Length		Bottom Dead Zone [in.]	Bottom Dead Zone [mm]
	[in.]	[mm]		
HCFC,HFC	19.2	4.52	115	
	30	4.84	123	
	45	5.29	134	
	55	5.59	142	
	65	5.89	150	
	85	6.49	165	

Improved Bottom dead zone values after the adjustment of dielectric constant

Refrigerant	Probe Length		Bottom Dead Zone [in.]	Bottom Dead Zone [mm]
	[in.]	[mm]		
HCFC,HFC	19.2	3.94	100	
	30			
	45			
	55			
	65			
	85			

Danfoss M84H0031_1

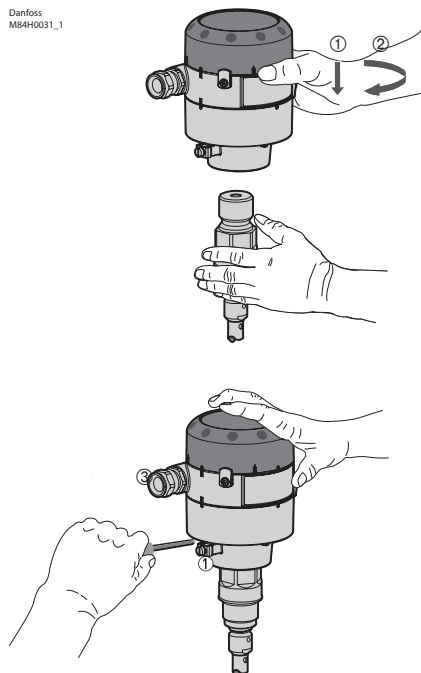
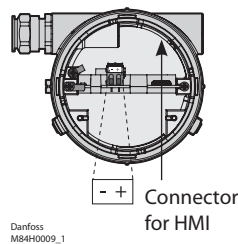


Fig. 7



Danfoss M84H0009_1

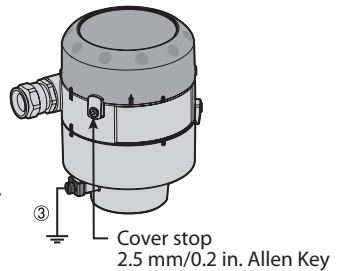


Fig. 8

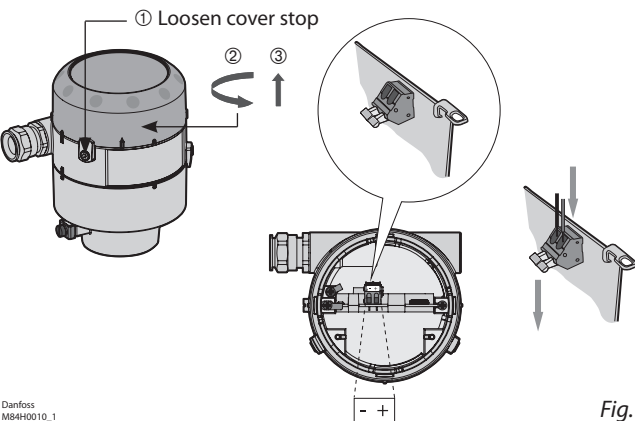


Fig. 9

AKS 41/41U to AKS 4100/4100U

AKS 41/41U with a.c. supply to AKS 4100/4100U with d.c. supply

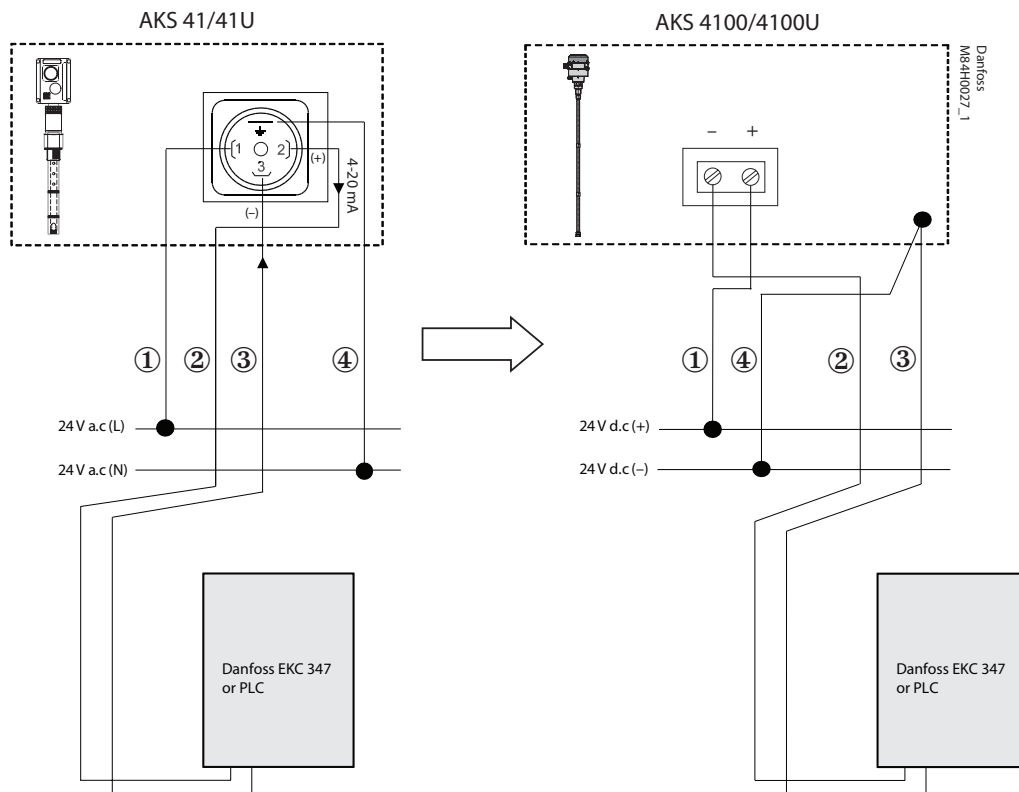


Fig. 10

AKS 4100/4100U connected to EKC 347

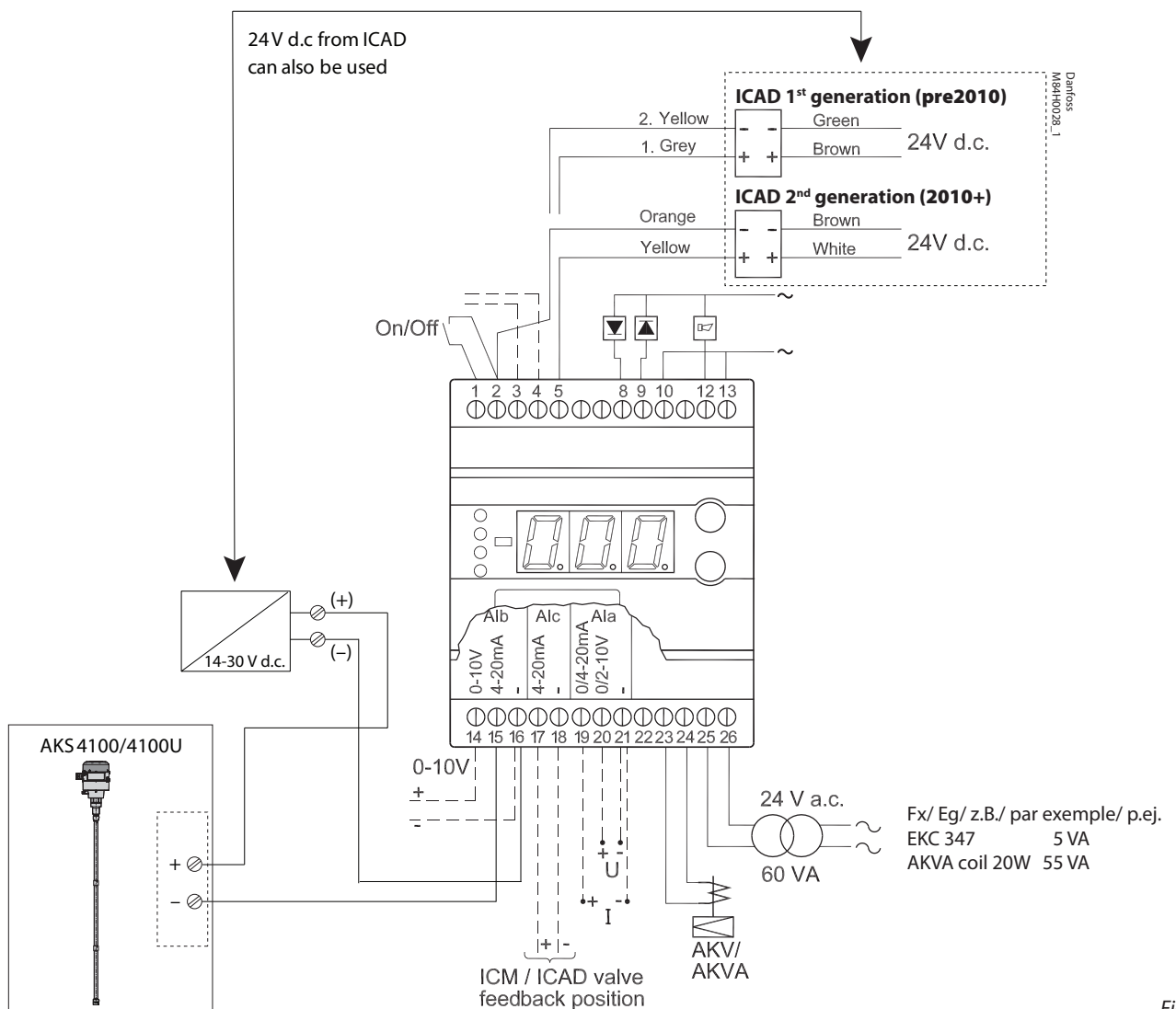


Fig. 11

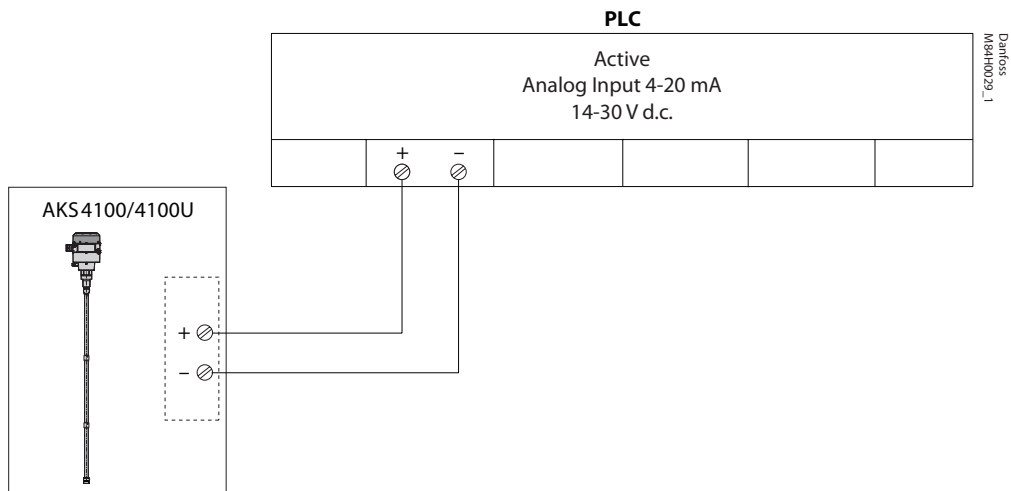
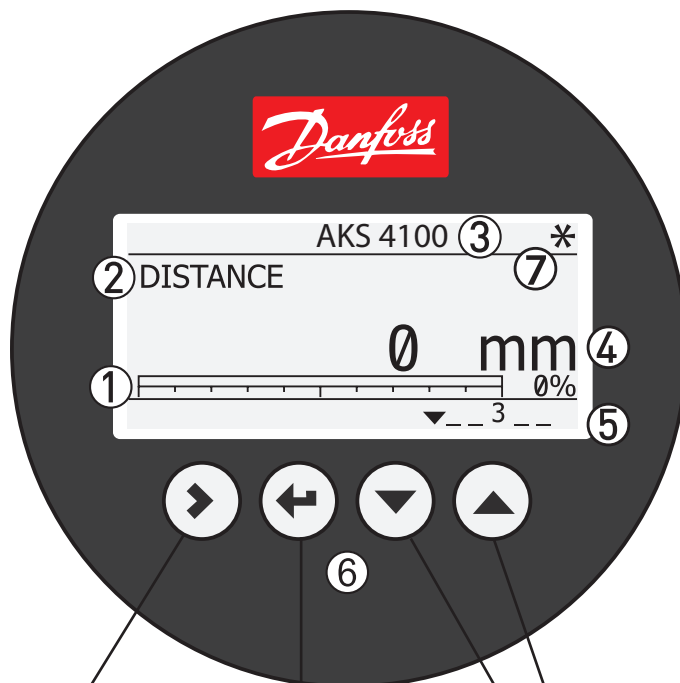


Fig. 12



Enter menu system
Enter QUICK SETUP

Unit change at
distance/level
readout:
m, cm, mm, in, ft

Change between:
Distance*
Level**
Output (%)***
Output (mA)****

- ① 4-20 mA output displayed as bar graph and in percentage [%]
- ② Measurement name (in this example, DISTANCE)
- ③ Device tag name
- ④ Measurement reading and unit
- ⑤ Device status (markers)
Marker 1, 2 and 3 (Error)
Hardware problem; the Signal Converter hardware is defective. Contact Danfoss.
Marker 4 and 5 (Notification)
Depending on the level, the marker is ON or OFF. Used for Danfoss service information only.
- ⑥ Keypad buttons
- ⑦ Flashing star indicating unit in operation.

* DISTANCE is a display option.
If the display is set to "DISTANCE" the displayed value will be the distance from the Reference point to the top surface of the liquid refrigerant (see fig. 6).

** LEVEL is display option.
If the display is set to "LEVEL" then the value displayed will be:
PROBE LENGTH (entered in QUICK SETUP) – DISTANCE (see fig. 6)

*** OUTPUT (%) is display option.
Will represent the level of refrigerant, in percent, scaled (entered in QUICK SETUP) according to: SCALE 4 mA (0%), SCALE 20 mA (100%) (see fig. 6).

**** OUTPUT I (mA) is display option.
Will represent the level of refrigerant, in 4-20 milliamperes, scaled (entered in QUICK SETUP) according to: SCALE 4 mA (4 mA), SCALE 20 mA (20 mA) (see fig. 6).

Fig. 13

English



Please observe that AKS 4100/4100U is intended to always be* installed in a standpipe (column/bypass/stilling well). A standpipe is commonly used when:

- Servicing the AKS 4100/4100U
- There is highly conductive foam in the tank.
- The liquid is very turbulent or agitated.

AKS 4100/4100U Coaxial with or without HMI does not need any change of setting to operate, unless used in CO₂.

Presetting:

4 mA : Probe length - 100 mm (4 in.)

20 mA: 120 mm (5 in.)

Refrigerants

AKS 4100/4100U is designed specifically to measure liquid level in the most commonly used refrigerants, including R744 (CO₂), R717 (ammonia), HCFC, HFC and non corrosive gases/liquids.

Basic data

AKS 4100/4100U is a passive 2-wire 4-20 mA sensor that is loop powered.

Supply Voltage

14-30 V d.c. min/max. value for a max. output of 22 mA at the terminal

Load

RL [Ω] ≤ ((Uext - 14 V)/20 mA).

– Default (Error output set to 3.6 mA)

RL [Ω] ≤ ((Uext - 14 V)/22 mA).

– (Error output set to 22 mA)

Cable gland

AKS 4100 PG 13, M20×1.5 ;
(cable diameter:
6-8 mm (0.24-0.31 in.)

AKS 4100U ½ in. NPT

Terminals (spring loaded)

0.5-1.5 mm² (~20-15 AWG)

Enclosure

IP 67 (~NEMA type 4X)

Refrigerant temperature

–60°C/100°C (–76°F/212°F)

Refrigerants

The listed refrigerants are qualified and approved by Danfoss:

R717 / NH₃: –40°C / +50°C (–40°F / +122°F)

R744 / CO₂: –50°C / +15°C (–58°F / +59°F)

HCFC:

R22: –50°C / +48°C (–58°F / +118°F)

HFC:

R404A: –50°C / +15°C (–58°F / +59°F)

R410A: –50°C / +15°C (–58°F / +59°F)

R134A –40°C / +50°C (–40°F / +122°F)

Ambient temperature

–40°C / +80°C (–40°F / +175°F)

For HMI : –20°C / +60°C (–4°F / +140°F)

Process pressure

–1 barg / 100 barg (–14.5 psig / 1450 psig)

Mechanical process connection with 5 m (197 in.) Ø2 mm (0.08 in.) stainless cable:

AKS 4100 G1 inch pipe thread.

Aluminium gasket included

AKS 4100U ¾ in. NPT

(Further details in the Technical Brochure)

Mechanical Installation

Preparations prior to Mechanical Installation

Disassemble the Signal Converter from the Mechanical process connection (use 5 mm hex key, **see fig. 7**). Fit the red protection cover on top of the Mechanical process connection to protect it against any moisture or dirt particles.

Content supplied (fig 1)

- ① Signal Converter (with or without HMI)
- ② Mechanical process connection with 5 m (197 in.) Ø2 mm (0.08 in.) stainless wire
- ③ Tube(s)
- ④ Bag with:
End Connector (incl. 3 mm set screws.)
3 mm set screws (1 set screw pr. tube)
Red cover to protect Mechanical process connection ②, before Signal converter is mounted
Setting label.

Assembly of the segmented coaxial probe



Please observe that the stainless steel wire is not permanently creased or kinked.

1. Take the end of the stainless wire and feed it through the center hole of the plastic spacer located at the top of each tube (**see fig. 2**). Feed the entire length of the stainless wire through the tube and out at the bottom. If more than one tube; repeat the steps.
2. Assemble the segments of tube ① and ② (**see fig. 3**). Use a 17 mm open-end wrench to tighten the assembled parts.
3. If more than one tube; repeat the steps (**see fig. 3**).
4. Prior to assemble, disassemble signal converter and mechanical process connection, and fit red protection cap at mechanical process connection. Thread the fully assembled tube onto the mechanical process connection ②.
5. Lock each tube by tightening the set screw ④ with a 3 mm hex key (**see fig. 3**).
6. Pull the stainless wire through the end connector (**see fig. 4**).
7. Attach the end connector to the bottom of the fully assembled tube. Tighten the set screw with a 3 mm hex key (**see fig. 4**).
8. Pull the end of the stainless steel wire extending from the end connector with pliers (**see fig. 4**) to ensure that the tension in the signal cable is correct. Tighten the 2 set screws with a 3 mm hex key to lock the stainless wire.
9. Cut the stainless wire about 20 mm (0.8 in.) below the end connector (**see fig. 5**).
10. Measure the probe length (without the signal converter) before fitting the assembled probe in the standpipe (**see fig. 6**). Use a torque wrench to tighten the mechanical process connection (**fig. 1, item 2**) to 120 Nm (89 lb/ft).

If factory setting needs adjustment

Probe length, scale 4 mA and 20 mA for HMI Quick Setup.

Probe length:

See probe length on Danfoss product label or measure probe length (**see fig. 6**).

Scale 4 mA: (for max. measuring range)

= Probe Length

– Bottom dead zone (**see fig. 6**)

Scale 20 mA: (for max. measuring range:)

= Top dead zone (**see fig. 6**)

Example (AKS 4100)

Given conditions:

Probe length: 1200 mm

Refrigerant: CO₂, –35°C

The gas constant Er is always adjusted from the Quick Setup

Probe length:

= 1200 mm

SCALE 4 mA setting for max. measuring range:

= Probe length (1200 mm)

– Bottom dead zone (**see fig. 6**)

(170 mm) = **1030 mm (40.9 in.)**

SCALE 20 mA Setting for Max. Measuring range:

= Top dead zone (**see fig. 6**)

= **120 mm (4.7 in.)**

From page 8:

Dielectric constant of refrigerant gas parameter 2.5.3 GAS EPS.R

= **1.02**

How to mount the AKS 4100/4100U Converter (see fig 7)

1. Using a 5-mm hex key, loosen the setscrew in the Signal Converter.
2. Slide the Signal Converter down until it rests on the mechanical process connection.
3. Turn the Signal Converter to the wanted position and tighten the set screw with a 5 mm Hexagon key

Electrical installation/connection

Output terminals (fig. 8 and 9):

1. Current output –
2. Current output +
3. Grounding terminal

Electrical installation procedure

1. Use a 2.5 mm Allen wrench to loosen the cover stop.
2. Remove the terminal compartment cover from the housing.
3. Do not disconnect the wire from the terminal compartment cover. Put the terminal compartment cover adjacent to the housing.
4. Connect the wires to the device. Tighten the cable entry glands.
5. Attach the terminal compartment cover to the housing.
6. Use a 2.5 mm Allen wrench to tighten the cover stop.

Note:

The signal converter can be programmed with or without mechanical process connector assembled.

Start up:

- Connect the converter to the power supply.
- Energize the converter.

Devices with the HMI display option only:

After 10 seconds the screen will display "Starting up". After 20 seconds the screen will display the software version numbers. After 30 seconds the default screen (**fig. 13**) will appear.

Precautions when changing from AKS 41/41U to the AKS 4100/4100U:

Please note:

The AKS 41/41U can be used with a.c. and d.c. supply, but the AKS 4100/4100U can only be used with a d.c. supply. **Follow the instructions in fig. 10.**

Connecting to controller or PLC

Follow the instructions in **fig. 11 or 12.**



Note:

The current output will be set to 3.6 mA whenever the AKS 4100/4100 detects an error like Marker 1, 2 or 3 (see page 4).

Quick Setup →

Note:

The signal converter can be programmed with or without mechanical process connector assembled.

Quick Setup (all values below are only examples)

When CO₂ is used:

- Connect the device to the power supply (see the section "Electrical installation/connection").

- Press 3 times.

AKS 4100	
QUICK SETUP ?	
YES	NO

- Press .

AKS 4100	
PROBE TYPE	
SINGLE CABLE	

- Press or to select between SINGLE, COAXIAL D14 and COAXIAL D22. Choose **COAXIAL D14** and press to confirm.

AKS 4100	
LIQUID CO ₂ ?	
YES	NO

- Press (YES) to confirm

AKS 4100	
GAS EPS R ?	
001.000	

- Press to change GAS EPS.R. (Select the correct value from the tables on page 8)
- Press to change cursor-position.
- Press to decrease the value or to increase the value.

- Press to confirm.

AKS 4100	
PROBE LENGTH	
05000 mm	

- Press to change the PROBE LENGTH. Press to change the position of the cursor.
- Press to decrease the value or to increase the value.
- Press to confirm.

AKS 4100	
SCALE 4 mA	
04946 mm	

- Press to change of SCALE 4 mA. Press to change the cursor position. Press to decrease the value or to increase the value.
- Press to confirm.

AKS 4100	
SCALE 20 mA	
00070 mm	

- Press to change of SCALE 20 mA. Press to change the cursor position. Press to decrease the value or to increase the value.
- Press to confirm.

AKS 4100	
QUICK SETUP	
COMPLETED IN 8	

- Wait for QUICK SETUP to complete. Count down from 8 sec.

AKS 4100	
1.0.0	
QUICK SETUP	

- Press to confirm.

AKS 4100	
1.0.0	
STORE NO	

- Press or to select between STORE NO or STORE YES. Press to confirm.

Default screen appears:

AKS 4100	
DISTANCE	
5000 mm	

Quick Setup completed

You have the possibility of checking your settings by pressing twice.

AKS 4100	
COAXIAL D14	2200 mm
(0 %) 4 mA	1900 mm
(100 %) 20 mA	70 mm

Press to return to default screen.

For all other refrigerants:

- Connect the device to the power supply (see the section "Electrical installation/connection").

- Press 3 times.

AKS 4100	
QUICK SETUP ?	
YES	NO

- Press .

AKS 4100	
PROBE TYPE	
SINGLE CABLE	

- Press or to select between SINGLE, COAXIAL D14 and COAXIAL D22. Choose **COAXIAL D14** and press to confirm.

AKS 4100	
LIQUID CO ₂ ?	
YES	NO

- Press (NO) to confirm

AKS 4100	
PROBE LENGTH	
05000 mm	

- Press to change the PROBE LENGTH. Press to change the position of the cursor. Press to decrease the value or to increase the value.
- Press to confirm.

AKS 4100	
SCALE 4 mA	
04946 mm	

- Press to change of SCALE 4 mA. Press to change the cursor position. Press to decrease the value or to increase the value.
- Press to confirm.

AKS 4100	
SCALE 20 mA	
00070 mm	

- Press to change of SCALE 20 mA. Press to change the cursor position. Press to decrease the value or to increase the value.
- Press to confirm.

AKS 4100	
QUICK SETUP	
COMPLETED IN 8	

- Wait for QUICK SETUP to complete. Count down from 8 sec.

AKS 4100	
1.0.0	
QUICK SETUP	

- Press to confirm.

AKS 4100	
1.0.0	
STORE NO	

- Press or to select between STORE NO or STORE YES. Press to confirm.

Default screen appears:

AKS 4100	
DISTANCE	
5000 mm	

Quick Setup completed

How to force mA output (all values below are only examples)

Default screen AKS 4100 DISTANCE 5000 mm • Press  AKS 4100 1.0.0 QUICK SETUP • Press  AKS 4100 2.0.0 SUPERVISOR • Press  AKS 4100 2.0.0 _____ Enter password:       AKS 4100 2.1.0 INFORMATION	• Press  AKS 4100 2.2.0 TESTS • Press  AKS 4100 2.2.1 SET OUTPUT • Press  AKS 4100 SET OUTPUT 3.5 mA • Press  to decrease the value or  to increase the value. Press  to confirm. AKS 4100 SET OUTPUT 8 mA	• Press  4 times to return to default screen. Default screen appears: AKS 4100 DISTANCE 5000 mm Force mA completed and disabled
--	--	---

Optional Procedure

If the temperature condition in the stand pipe is known, a constant (dielectric constant of the refrigerant gas) **can be** entered (parameter 2.5.3 GAS EPS.R), in order to obtain lower Top and Bottom Dead Zone values (**see fig. 6**).

How to enter dielectric constant of refrigerant gas (all values below are only examples)

Default screen AKS 4100 DISTANCE 5000 mm • Press  AKS 4100 1.0.0 QUICK SETUP • Press  AKS 4100 2.0.0 SUPERVISOR • Press  AKS 4100 2.0.0 _____ Enter password:       AKS 4100 2.1.0 INFORMATION	• Press  4 times. AKS 4100 2.5.0 APPLICATION • Press  AKS 4100 2.5.1 TRACING VEL. • Press  2 times. AKS 4100 2.5.3 GAS EPS. R • Press  to check/change GAS EPS.R. (Select the correct value from the tables below and on page 8) Press  to change cursor-position. Press  to decrease the value or  to increase the value. AKS 4100 GAS EPS. R 1.066	• Press  to confirm. AKS 4100 2.5.3 GAS EPS. R • Press  3 times. AKS 4100 1.0.0 STORE NO • Press  or  to select between STORE NO or STORE YES. Select STORE YES by pressing  Default screen appears: AKS 4100 DISTANCE 5000 mm Entering the dielectric constant of refrigerant gas completed
--	---	--

R717 (NH₃)

Temperature range:

-60°C → +50°C (-76°F → +122°F)

Temperature [°C]	Temperature [°F]	Dielectric constant of refrigerant gas Parameter 2.5.3 GAS EPS.R
-60 → -42	-76 → -43	1.00
-41 → -18	42 → 0	1.01
-17 → -5	1 → 23	1.02
-4 → 4	24 → 39	1.03
5 → 12	40 → 54	1.04
13 → 18	55 → 64	1.05
19 → 24	65 → 75	1.06
25 → 28	76 → 82	1.07
29 → 33	83 → 91	1.08
34 → 37	92 → 99	1.09
38 → 40	100 → 104	1.10
41 → 44	105 → 111	1.11
45 → 47	112 → 117	1.12
48 → 50	118 → 122	1.13

R22

Temperature range:

-60°C → +48°C (-76°F → +118°F)

Temperature [°C]	Temperature [°F]	Dielectric constant of refrigerant gas Parameter 2.5.3 GAS EPS.R
-60 → -50	-76 → -58	1.00
-49 → -25	57 → -13	1.01
-24 → -10	-12 → 14	1.02
-9 → 0	15 → 32	1.03
1 → 8	33 → 46	1.04
9 → 15	47 → 59	1.05
16 → 21	60 → 70	1.06
22 → 26	71 → 79	1.07
27 → 31	80 → 88	1.08
32 → 35	89 → 95	1.09
36 → 39	96 → 102	1.10
40 → 42	103 → 108	1.11
43 → 45	109 → 113	1.12
46 → 48	114 → 118	1.13

R410A

Temperature range:

-65°C → +15°C (-85°F → +59°F)

Temperature [°C]	Temperature [°F]	Dielectric constant of refrigerant gas Parameter 2.5.3 GAS EPS.R
-65 → -47	-85 → -52	1.01
-46 → -35	-51 → -31	1.02
-34 → -26	-30 → -14	1.03
-25 → -19	-13 → -2	1.04
-18 → -13	-1 → 9	1.05
-12 → -8	10 → 18	1.06
-7 → -4	19 → 25	1.07
-3 → 0	26 → 32	1.08
1 → 4	33 → 40	1.09
5 → 7	41 → 45	1.10
8 → 10	46 → 50	1.11
11 → 12	51 → 54	1.12
13 → 15	55 → 59	1.13

R507

Temperature range:

-60°C → +15°C (-76°F → +59°F)

Temperature [°C]	Temperature [°F]	Dielectric constant of refrigerant gas Parameter 2.5.3 GAS EPS.R
-60 → -48	-76 → -54	1.01
-47 → -36	-53 → -32	1.02
-35 → -28	-31 → -18	1.03
-27 → -21	-17 → -6	1.04
-20 → -15	-17 → -5	1.05
-14 → -10	-4 → 14	1.06
-9 → -6	13 → 22	1.07
-5 → -2	23 → 29	1.08
-1 → 2	30 → 36	1.09
3 → 5	37 → 41	1.10
6 → 8	42 → 47	1.11
9 → 11	48 → 52	1.12
12 → 13	53 → 56	1.13
14 → 15	57 → 59	1.14

R744 (CO₂)

Temperature range:

-56°C → +15°C (-69°F → +59°F)

Temperature [°C]	Temperature [°F]	Dielectric constant of refrigerant gas Parameter 2.5.3 GAS EPS.R
-56.0 → -42.0	-69 → -43	1.01
-41.0 → -28.0	-42 → -18	1.02
-27.0 → -17.0	-17 → 2	1.03
-16.0 → -9.0	3 → 16	1.04
-8.0 → -3.0	17 → 27	1.05
-2.0 → 2	28 → 36	1.06
3 → 7	37 → 45	1.07
8 → 11	46 → 52	1.08
12 → 14	53 → 58	1.09
15	59	1.10

R134a

Temperature range:

-60°C → +50°C (-76°F → +122°F)

Temperature [°C]	Temperature [°F]	Dielectric constant of refrigerant gas Parameter 2.5.3 GAS EPS.R
-60 → -42	-76 → -43	1.00
-41 → -18	-42 → -0	1.01
-17 → -4	1 → 25	1.02
-3 → 5	26 → 41	1.03
6 → 13	42 → 56	1.04
14 → 20	57 → 68	1.05
21 → 25	69 → 77	1.06
26 → 30	78 → 86	1.07
31 → 34	87 → 94	1.08
35 → 38	95 → 100	1.09
39 → 42	101 → 108	1.10
43 → 45	109 → 113	1.11
46 → 48	114 → 119	1.12
49 → 50	120 → 122	1.13

R404A

Temperature range:

-60°C → +15°C (-76°F → +59°F)

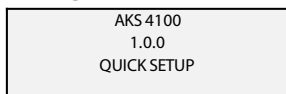
Temperature [°C]	Temperature [°F]	Dielectric constant of refrigerant gas Parameter 2.5.3 GAS EPS.R
-60 → -47	-76 → -52	1.01
-46 → -35	-51 → -31	1.02
-34 → -26	-30 → -14	1.03
-25 → -19	-13 → -2	1.04
-18 → -14	-1 → 7	1.05
-13 → -9	8 → 16	1.06
-8 → -4	17 → 25	1.07
-3 → 0	26 → 32	1.08
1 → 3	33 → 38	1.09
4 → 6	39 → 43	1.10
7 → 9	44 → 49	1.11
10 → 12	50 → 54	1.12
13 → 15	55 → 59	1.13

How to change the language setting (Default: English)

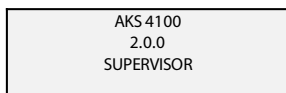
Default screen



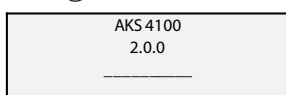
- Press



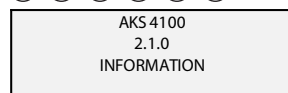
- Press



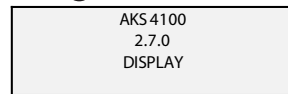
- Press



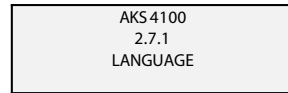
Enter password:



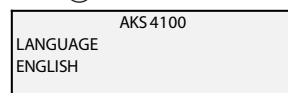
- Press 6 times



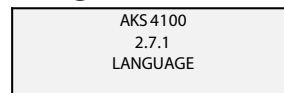
- Press



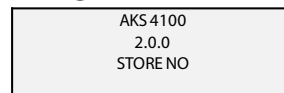
- Press



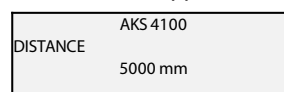
- Press or to see the language possibilities
Press to confirm.



- Press 3 times



- Press or to select between STORE NO or STORE YES.
Select STORE YES by pressing
Default screen appears:



Language setup completed

Reset to factory setting

- Go to SUPERVISOR menu (see page 7).
- Go to parameter 2.9.4 Reset Factory.
- Select RESET FACTORY YES
- Press 3 times to return to default screen.

Factory reset completed.

