

**Programmieranleitung  
KINAX N702-INOX HART über den HART Field  
Communicator 475**

**Instructions de programmation  
KINAX N702-INOX HART via HART Field Com-  
municator 475**

**Programming Instructions  
KINAX N702-INOX HART via the HART Field  
Communicator 475**

**Istruzioni per la programmazione  
KINAX N702-INOX HART via HART Field Com-  
municator 475**



N702-INOX HART

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01.15

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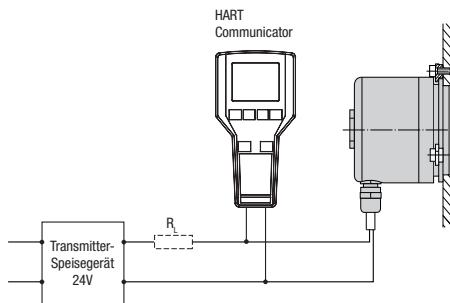
# Programmieranleitung KINAX N702-INOX HART über HART Field Communicator 475

Der KINAX N702-INOX HART lässt sich sehr einfach über handelsübliche HART Field Communicator (z.B. Emerson Typ 475) programmieren.

## 1. Inbetriebnahme

### 1.1 Anschluss

Schliessen Sie den HART Field Communicator 475 direkt an die 4 ... 20 mA 2-Draht-Signalleitung des KINAX N702-INOX HART an. Der Messkreis muss mindestens eine Bürde von  $240 \Omega$  aufweisen.

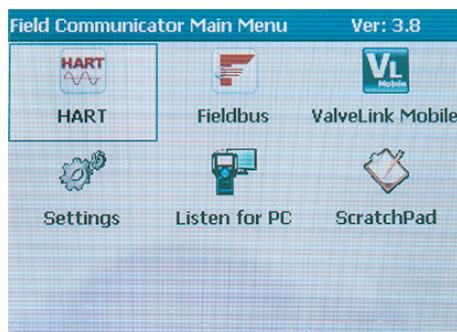


### 1.2 Einschalten

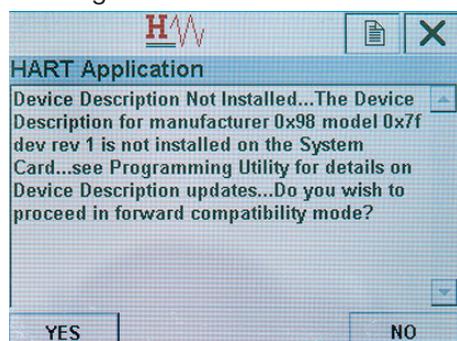
Schalten Sie den HART Field Communicator 475 ein



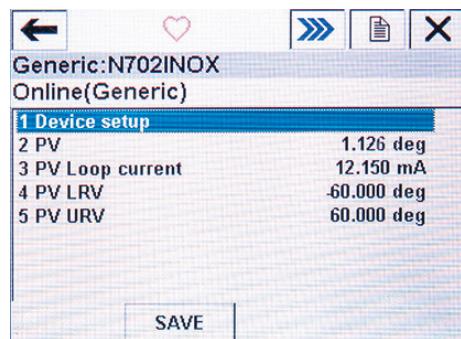
Wählen Sie den Betriebsmodus HART



Bestätigen Sie mit YES

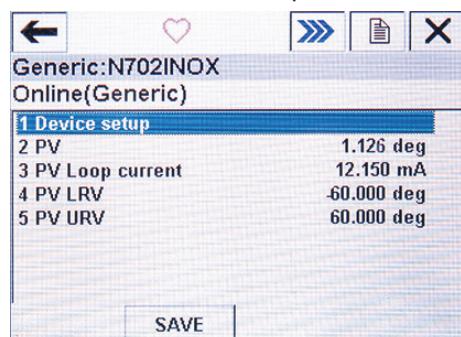


Sie befinden sich jetzt im Anzeigemodus

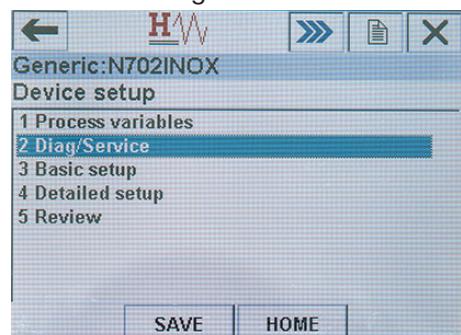


### 1.3 Nullpunkt setzen (43 Set Primary Variable Zero)

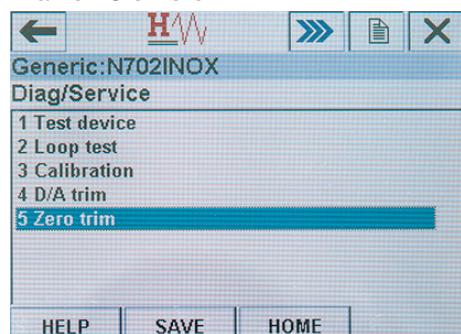
Wählen Sie Device setup



Wählen Sie Diag/Service



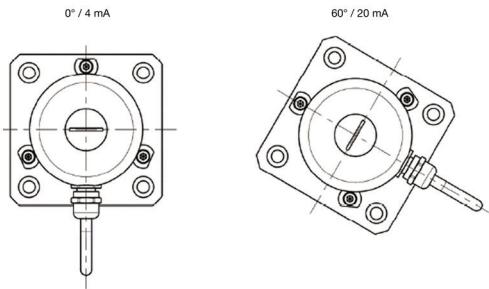
Wählen Sie Zero trim



Setzen Sie den Nullpunkt und bestätigen Sie diesen mit OK.

## 2. Programmierung Anwendungsfall 1: Anfangs- und Endwert setzen

Beim Anwendungsfall 1 befindet sich der Messbereich von 4 ... 20 mA zwischen zwei festen Winkelauslagen (z.B. 0° bis +60°)



### 2.1 Programmiermodus

Wählen Sie Device setup

Generic:N702INOX  
Online(Generic)  
1 Device setup  
2 PV 0.011 deg  
3 PV Loop current 12.001 mA  
4 PV LRV 90.000 deg  
5 PV URV 90.000 deg  
  
SAVE      HOME

Wählen Sie Diag/Service

Generic:N702INOX  
Device setup  
1 Process variables  
2 Diag/Service  
3 Basic setup  
4 Detailed setup  
5 Review  
  
SAVE      HOME

Wählen Sie Calibration

Generic:N702INOX  
Diag/Service  
1 Test device  
2 Loop test  
3 Calibration  
4 D/A trim  
5 Zero trim  
  
SAVE      HOME

Wählen Sie Apply values

Generic:N702INOX  
Calibration  
1 Apply values  
2 Enter values  
  
HELP      SAVE      HOME

### 2.2 Anfangswert setzen (45 Trim Loop Current Zero)

Geber in Anfangsstellung bringen, dann 4 mA = 0% setzen (45 Trim Loop Current Zero [4 mA])

Generic:N702INOX  
Set the:  
1 4mA  
2 20mA  
3 Exit  
  
ABORT      ENTER

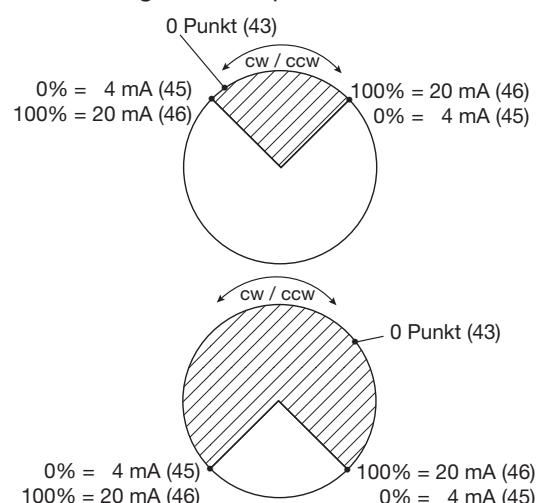
### 2.3 Endwert setzen (46 Trimm Loop Current Gain)

Geber in Endstellung bringen, dann 20 mA = 100% setzen (46 Trimm Loop Current Gain [20 mA])

Generic:N702INOX  
Set the:  
1 4mA  
2 20mA  
3 Exit  
  
ABORT      ENTER

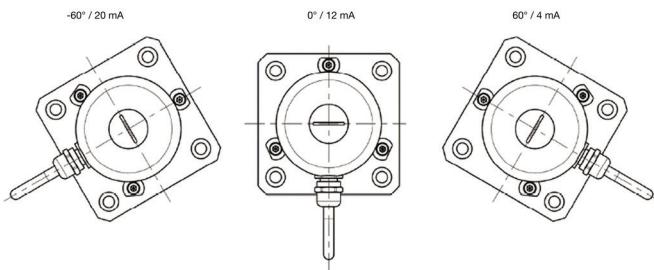
### 2.4 Definition der Drehrichtung

Die Drehrichtung wird über das Setzen des Trim Loop Current Zero [4 mA], des Trim Loop Current Gain [20 mA] und der Lage des Nullpunktes definiert.



### 3. Programmierung Anwendungsfall 2: Nullpunkt setzen

Beim Anwendungsfall 2 befindet sich der Messbereich von 4 ... 20 mA symmetrisch aufgeteilt zwischen zwei festen Winkelauslagen (z.B. -60° bis +60°)



#### 3.1 Programmiermodus

Wählen Sie Device setup

**Generic:N702INOX**  
Online(Generic)

1 Device setup	43.281 deg
2 PV	43.281 deg
3 PV Loop current	13.923 mA
4 PV LRV	-180.000 deg
5 PV URV	180.000 deg

**SAVE**

Wählen Sie Detailed setup

**Generic:N702INOX**  
Device setup

1 Process variables	
2 Diag/Service	
3 Basic setup	
4 Detailed setup	43.281 deg
5 Review	

**SAVE**    **HOME**

Wählen Sie Signal conditions

**Generic:N702INOX**  
Detailed setup

1 Sensors	
2 Signal condition	43.281 deg
3 Output condition	
4 Device information	

**SAVE**    **HOME**

#### 3.2 Nullpunkt setzen

Setzen Sie den Nullpunkt gemäss Kapitel 1.3

### 3.3 Messbereich setzen

Wählen Sie Primary Variable Upper Range Value (PV URV)

**Generic:N702INOX**  
Signal condition

1 PV Damp	0.000 s
2 PV URV	60.000 deg
3 PV LRV	-60.000 deg
4 PV Xfer fnctn	Linear
5 PV % rnge	50.934 %

**HELP**    **SAVE**    **HOME**

Setzen Sie den gewünschten Winkelwert (z.B. 60.00°)

**Generic:N702INOX**

1 PV URV	60.000 deg
2 PV LRV	-60.000 deg

**HELP**    **HOME**

Wählen Sie Primary Variable Lower Range Value (PV LRV)

**Generic:N702INOX**  
Signal condition

1 PV Damp	0.000 s
2 PV URV	60.000 deg
3 PV LRV	-60.000 deg
4 PV Xfer fnctn	Linear
5 PV % rnge	50.934 %

**HELP**    **SAVE**    **HOME**

Setzen Sie den gewünschten Winkelwert (z.B. -60.00°)

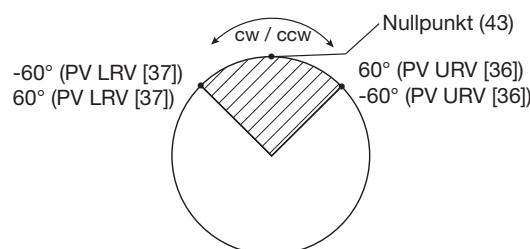
**Generic:N702INOX**

1 PV URV	60.000 deg
2 PV LRV	-60.000 deg

**HELP**    **HOME**

### 3.3 Definition der Drehrichtung

Die Drehrichtung wird über das Setzen der Vorzeichen +/- bei URV/LRV definiert.



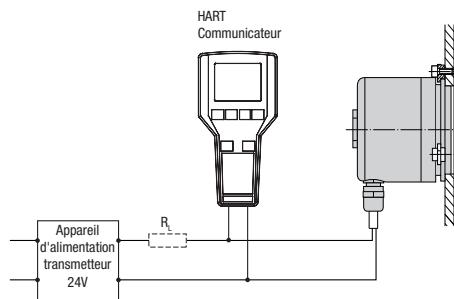
# Instructions de programmation KINAX N702-INOX HART via HART Field Communicator 475

La programmation du KINAX N702-INOX HART est très simple en utilisant des HART Field Communicator du commerce (p. ex. l'Emerson de type 475).

## 1. Mise en service

### 1.1 Connexion

Raccordez le HART Field Communicator 475 directement au ... câble de signalisation 2 fils 4 ... 20 mA du KINAX N702 INOX HART. Le circuit de mesure doit présenter une charge minimale de 240 Ω.

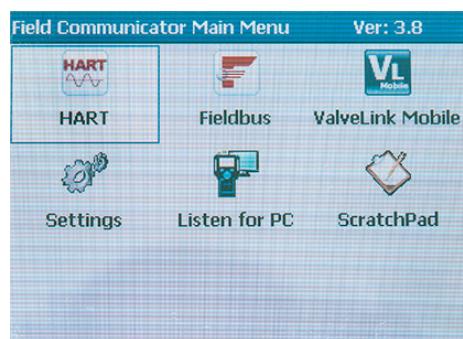


### 1.2 Allumer

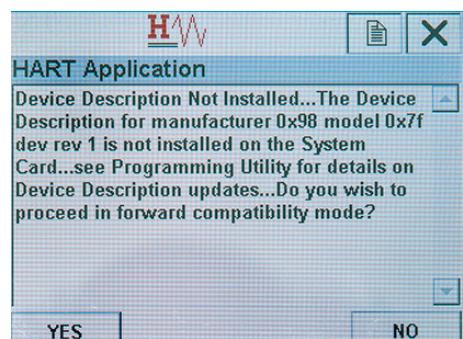
Allumez HART Field Communicator 475



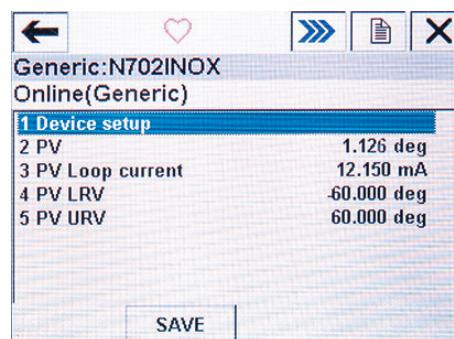
Sélectionnez le mode de fonctionnement HART



Confirmez avec YES

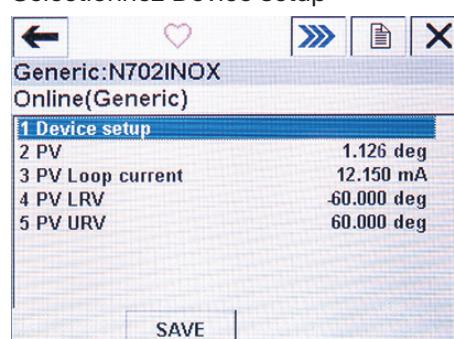


Vous êtes maintenant en mode d'affichage

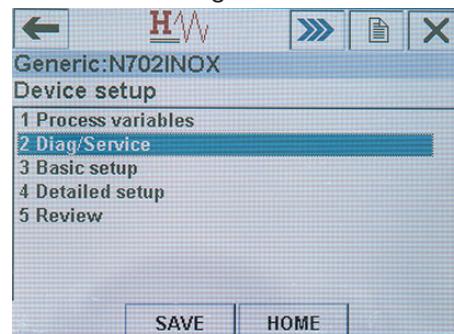


### 1.3 Définir le point zéro (43 Set Primary Variable Zero)

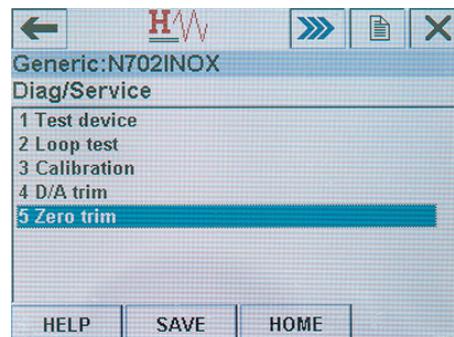
Sélectionnez Device setup



Sélectionnez Diag/Service



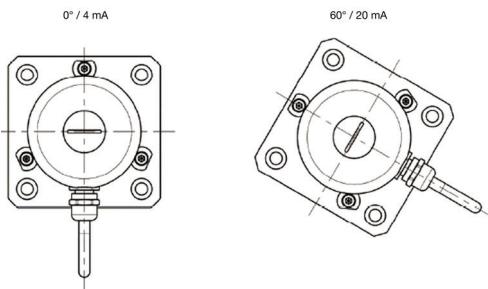
Sélectionnez Zero trim



Définir le point zéro et confirmez-le par OK.

## 2. Programmation Cas d'utilisation 1: Les valeurs initiale et de finale

Dans le cas d'application n° 1, la plage de mesure de 4 ... 20 mA se situe entre deux butées angulaires fixes (p.ex. de 0° à +60°)



### 2.1 Mode de programmation

Sélectionnez Device setup

Generic:N702INOX  
Online(Generic)  
1 Device setup  
2 PV 0.011 deg  
3 PV Loop current 12.001 mA  
4 PV LRV 90.000 deg  
5 PV URV 90.000 deg  
  
SAVE      HOME

Sélectionnez Diag/Service

Generic:N702INOX  
Device setup  
1 Process variables  
2 Diag/Service  
3 Basic setup  
4 Detailed setup  
5 Review  
  
SAVE      HOME

Sélectionnez Calibration

Generic:N702INOX  
Diag/Service  
1 Test device  
2 Loop test  
3 Calibration  
4 D/A trim  
5 Zero trim  
  
SAVE      HOME

Sélectionnez Apply values

Generic:N702INOX  
Calibration  
1 Apply values  
2 Enter values  
  
HELP      SAVE      HOME

### 2.2 Placer le capteur en position de départ (45 Trim Loop Current Zero)

Placer le capteur en position de départ, mettre 4 mA = 0% (45 Trim Loop Current Zero [4 mA])

Generic:N702INOX  
Set the:  
1 4mA  
2 20mA  
3 Exit  
  
ABORT      ENTER

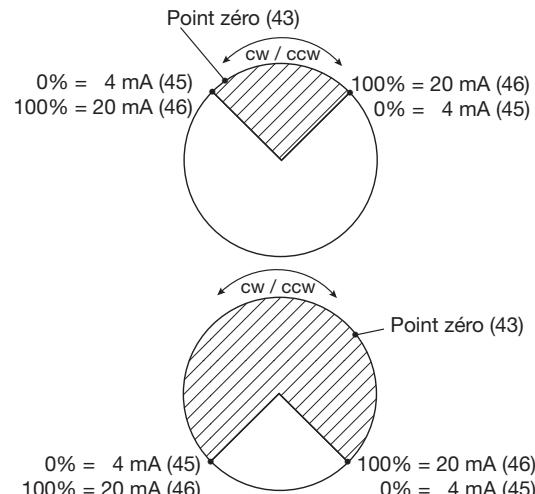
### 2.3 Placer le capteur en position finale (46 Trimm Loop Current Gain)

Placer le capteur en position finale, mettre 20 mA = 100% (46 Trim Loop Current Gain [20 mA])

Generic:N702INOX  
Set the:  
1 4mA  
2 20mA  
3 Exit  
  
ABORT      ENTER

### 2.4 Définition de sens de rotation

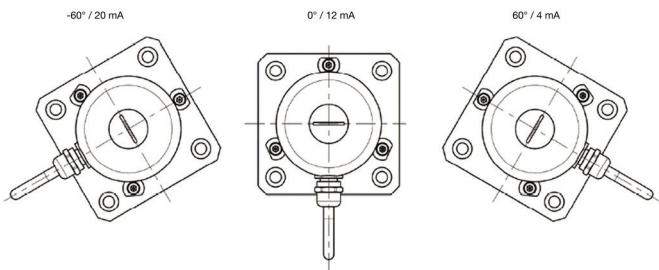
Le sens de rotation est défini par les commandes « Trim Loop Current Zero » [4 mA], « Trim Loop Current Gain » [20 mA] et la position du point zéro.



### 3. Programmation Cas d'utilisation 2:

#### Définir le point zéro

Dans le cas d'application n° 2, la plage de mesure de 4 ... 20 mA est subdivisée symétriquement entre deux butées angulaires fixes (p.ex. de -60° à +60°)



#### 3.1 Mode de programmation

Sélectionnez Device setup

1 Device setup	
2 PV	43.281 deg
3 PV Loop current	13.923 mA
4 PV LRV	-180.000 deg
5 PV URV	180.000 deg

SAVE    HOME

Sélectionnez Detailed setup

- 1 Process variables
- 2 Diag/Service
- 3 Basic setup
- 4 Detailed setup**
- 5 Review

SAVE    HOME

Sélectionnez Signal conditions

- 1 Sensors
- 2 Signal condition**
- 3 Output condition
- 4 Device information

SAVE    HOME

#### 3.2 Définir le point zéro

Définir le point zéro suivant le chapitre 1.3

#### 3.3 Mettre la plage de mesure

Sélectionnez Primary Variable Upper Range Value (PV URV)

1 PV Damp	0.000 s
<b>2 PV URV</b>	<b>60.000 deg</b>
3 PV LRV	-60.000 deg
4 PV Xfer fnctn	Linear
5 PV % rnge	50.933 %

HELP    SAVE    HOME

Réglez la valeur angulaire souhaitée (p. ex. 60.00°)

<b>1 PV URV</b>	<b>60.000 deg</b>
2 PV LRV	-60.000 deg

HELP    HOME

Sélectionnez Primary Variable Lower Range Value (PV LRV)

1 PV Damp	0.000 s
<b>2 PV URV</b>	<b>60.000 deg</b>
<b>3 PV LRV</b>	<b>-60.000 deg</b>
4 PV Xfer fnctn	Linear
5 PV % rnge	50.934 %

HELP    SAVE    HOME

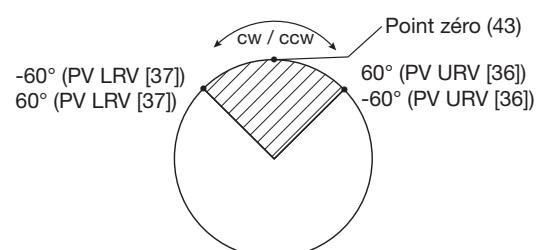
Réglez la valeur angulaire souhaitée (p. ex. -60.00°)

1 PV URV	60.000 deg
<b>2 PV LRV</b>	<b>-60.000 deg</b>

HELP    HOME

#### 3.3 Definition du sens de rotation

Le sens de rotation est défini en déterminant le signe +/- pour les valeurs URV/LRV.



# Programming Instructions

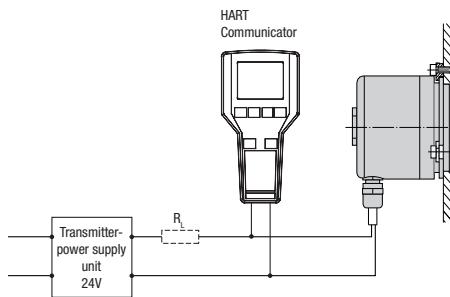
## KINAX N702-INOX HART via the HART Field Communicator 475

KINAX N702-INOX HART may be very easily programmed via commercially available HART field communicators (e.g. Emerson type 475).

### 1. Commissioning

#### 1.1 Connection

Connect the HART field communicator 475 directly to the 4...20mA 2-wire signal line of KINAX N702-INOX HART. The measuring circuit must have a minimum apparent resistance of 240Ω.

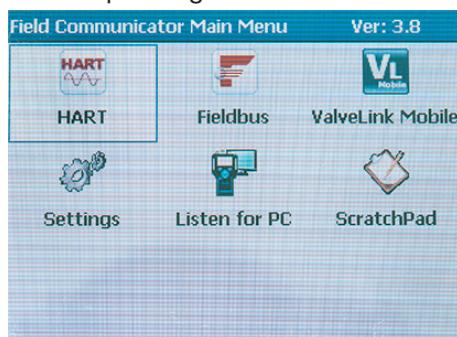


#### 1.2 Switch on

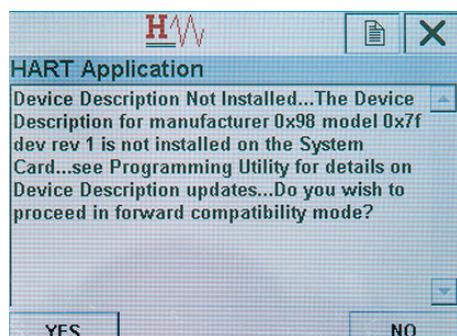
Switch on HART Field Communicator 475



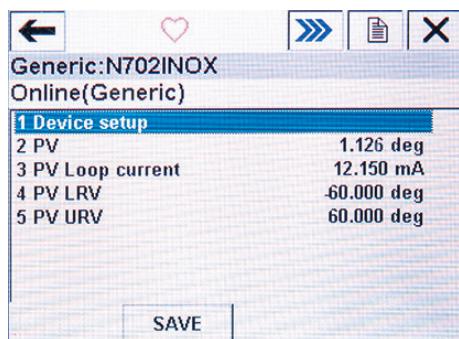
Select operating mode HART



Confirm with YES

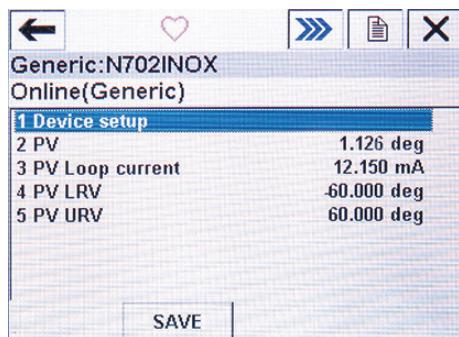


Your are now in the display mode

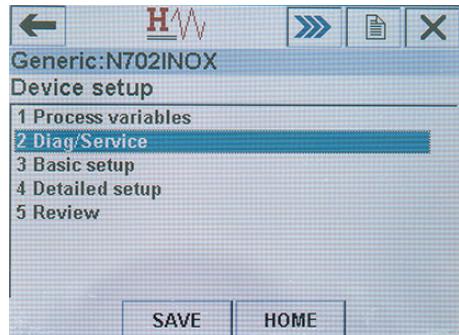


#### 1.3 Set zero point (43 Set Primary Variable Zero)

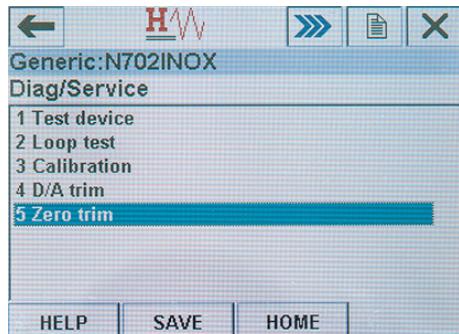
Select Device setup



Select Diag/Service



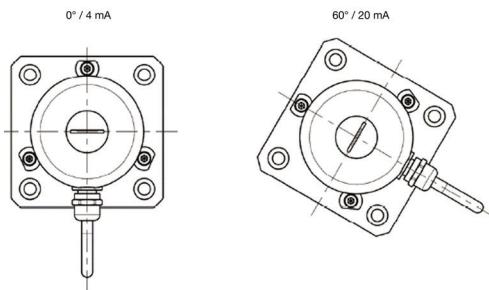
Select Zero trim



Set zero point and confirm with OK.

## 2. Programming use case 1: Set start and final value

In application case 1, the measuring range of 4...20mA is between two firm angular positions (e.g. 0° to +60°)



### 2.1 Programming mode

Select Device setup

**Generic:N702INOX**

Online(Generic)

**1 Device setup**

2 PV	0.011 deg
3 PV Loop current	12.001 mA
4 PV LRV	90.000 deg
5 PV URV	90.000 deg

**SAVE**

Select Diag/Service

**Generic:N702INOX**

Device setup

**2 Diag/Service**

1 Process variables
3 Basic setup
4 Detailed setup
5 Review

**SAVE**    **HOME**

Select Calibration

**Generic:N702INOX**

Diag/Service

**3 Calibration**

1 Test device
2 Loop test
4 D/A trim
5 Zero trim

**SAVE**    **HOME**

Select Apply values

**Generic:N702INOX**

Calibration

**1 Apply values**

**2 Enter values**

**HELP**    **SAVE**    **HOME**

### 2.2 Set start value (45 Trim Loop Current Zero)

Put transmitter into initial position, set 4 mA = 0%  
(45 Trim Loop Current Zero [4 mA])

**Generic:N702INOX**

Set the:

**1 4mA**

**2 20mA**

**3 Exit**

**ABORT**    **ENTER**

### 2.3 Set final value (46 Trimm Loop Current Gain)

Put transmitter into final position, set 20 mA = 100%  
(46 Trimm Loop Current Gain [20 mA])

**Generic:N702INOX**

Set the:

**1 4mA**

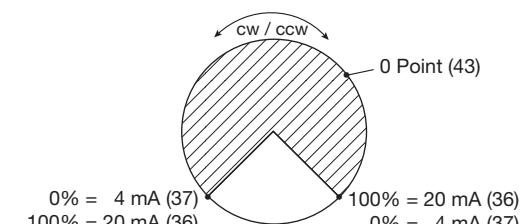
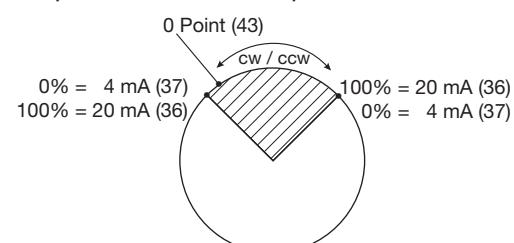
**2 20mA**

**3 Exit**

**ABORT**    **ENTER**

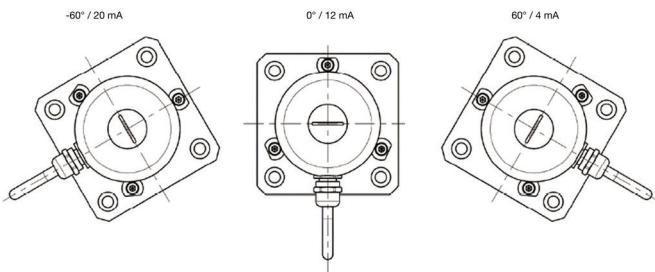
### 2.4 Definition of direction of rotation

The direction of rotation is defined via setting the trim loop current zero [4mA], the trim loop current gain [20mA] and the position of the zero point.



### 3. Programming use case 2: Set zero point

In application case 2, the measuring range of 4...20mA is symmetrically apportioned between two firm angular positions (e.g. -60° to +60°).



#### 3.1 Programming mode

Select Device setup

**Generic:N702INOX**

Online(Generic)

1 Device setup	43.281 deg
2 PV	43.281 deg
3 PV Loop current	13.923 mA
4 PV LRV	-180.000 deg
5 PV URV	180.000 deg

**SAVE**

Select Detailed setup

**Generic:N702INOX**

Device setup

1 Process variables	
2 Diag/Service	
3 Basic setup	
4 Detailed setup	60.000 deg
5 Review	

**SAVE**    **HOME**

Select Signal conditions

**Generic:N702INOX**

Detailed setup

1 Sensors	
2 Signal condition	60.000 deg
3 Output condition	
4 Device information	

**SAVE**    **HOME**

#### 3.2 Set zero point

Set zero point according to section 1.3

#### 3.3 Set measuring range

Select Primary Variable Upper Range Value (PV URV)

**Generic:N702INOX**

Signal condition

1 PV Damp	0.000 s
2 PV URV	60.000 deg
3 PV LRV	-60.000 deg
4 PV Xfer fnctn	Linear
5 PV % rnge	50.934 %

**HELP**    **SAVE**    **HOME**

Set desired angle range (z.B. 60.00°)

**Generic:N702INOX**

1 PV URV	60.000 deg
2 PV LRV	-60.000 deg

**HELP**    **HOME**

Select Primary Variable Lower Range Value (PV LRV)

**Generic:N702INOX**

Signal condition

1 PV Damp	0.000 s
2 PV URV	60.000 deg
3 PV LRV	-60.000 deg
4 PV Xfer fnctn	Linear
5 PV % rnge	50.934 %

**HELP**    **SAVE**    **HOME**

Set desired angle range (z.B. -60.00°)

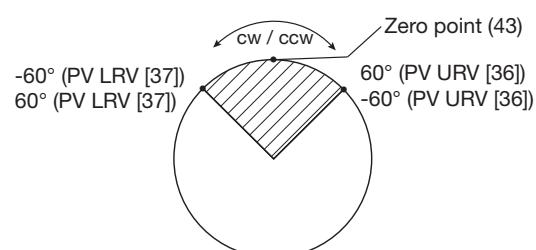
**Generic:N702INOX**

1 PV URV	60.000 deg
2 PV LRV	-60.000 deg

**HELP**    **HOME**

#### 3.3 Definition of direction of rotation

The direction of rotation is defined via setting the algebraic sign +/- in URV/LRV.



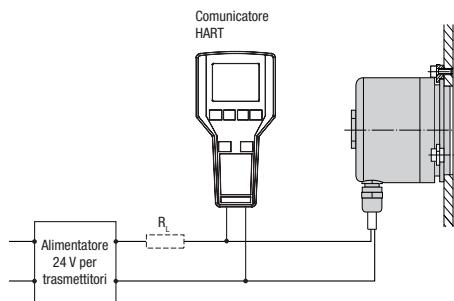
# Istruzioni per la programmazione KINAX N702-INOX HART via HART Field Communicator 475

Il KINAX N702-INOX HART può essere programmato molto facilmente con un comunicatore HART da campo (p. es. Emerson tipo 475).

## 1. Messa in servizio

### 1.1 Connessione

Collegare il comunicatore HART 475 direttamente al cavo bifilare 4 ... 20 mA del KINAX N702-INOX HART. Il circuito di misura deve presentare un carico di almeno 240 Ω.

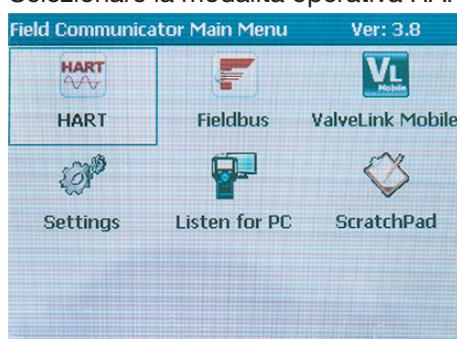


### 1.2 Accendere

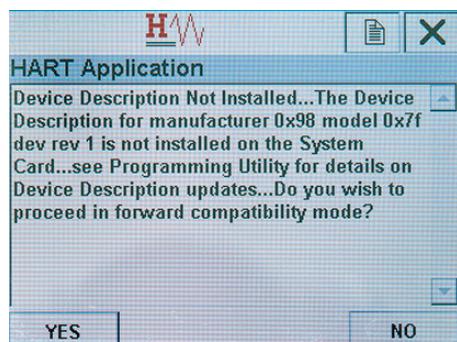
Accendete HART Field Communicator 475



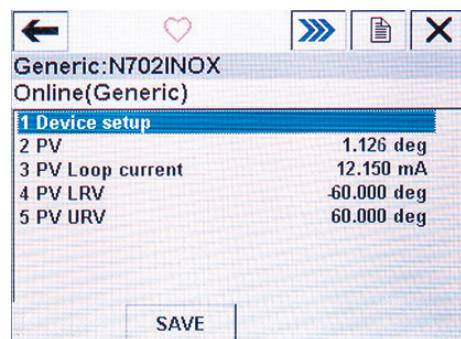
Selezionare la modalità operativa HART.



Confermare con YES

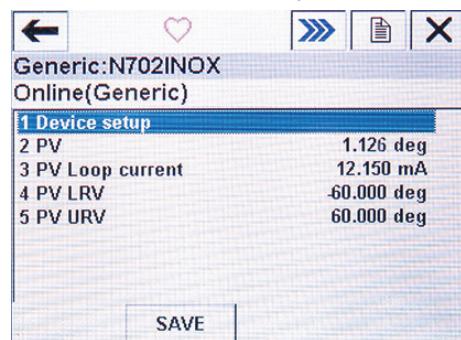


Adesso è attiva la modalità di visualizzazione

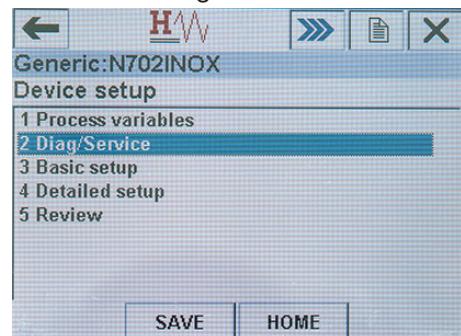


### 1.3 Definire lo zero (43 Set Primary Variable Zero)

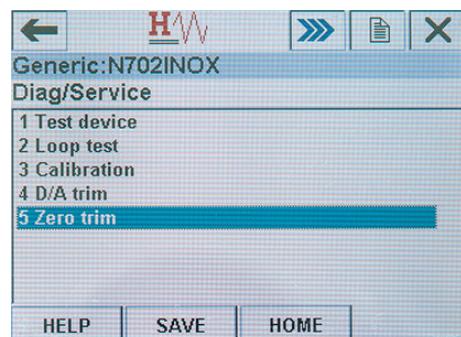
Selezionare Device setup



Selezionare Diag/Service



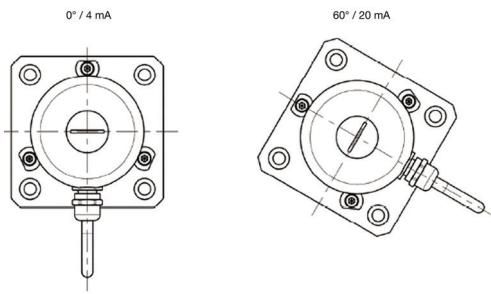
Selezionare Zero trim



Impostare lo zero e confermare l'impostazione con OK.

## 2. Programmazione caso applicativo 1: Definire la posizione iniziale e quella finale

Nel caso applicativo 1, il campo di misura 4 ... 20 mA si trova tra due angolazioni fisse (p. es. 0° ... +60°).



### 2.1 Modalità di programmazione

Selezionare Device setup

1 Device setup	0.011 deg
2 PV	0.011 deg
3 PV Loop current	12.001 mA
4 PV LRV	90.000 deg
5 PV URV	90.000 deg

SAVE

Selezionare Diag/Service

- 1 Process variables
- 2 Diag/Service**
- 3 Basic setup
- 4 Detailed setup
- 5 Review

SAVE    HOME

Selezionare Calibration

- 1 Test device
- 2 Loop test
- 3 Calibration**
- 4 D/A trim
- 5 Zero trim

SAVE    HOME

Selezionare Apply values

- 1 Apply values**
- 2 Enter values

HELP    SAVE    HOME

### 2.2 Definire la posizione iniziale (45 Trim Loop Current Zero)

Portare il rilevatore nella posizione iniziale e impostare 4 mA = 0%. (45 Trim Loop Current Zero [4 mA])

- Set the:
- 1 4mA**
- 2 20mA
- 3 Exit

ABORT    ENTER

### 2.3 Impostare il valore finale. (46 Trim Loop Current Gain)

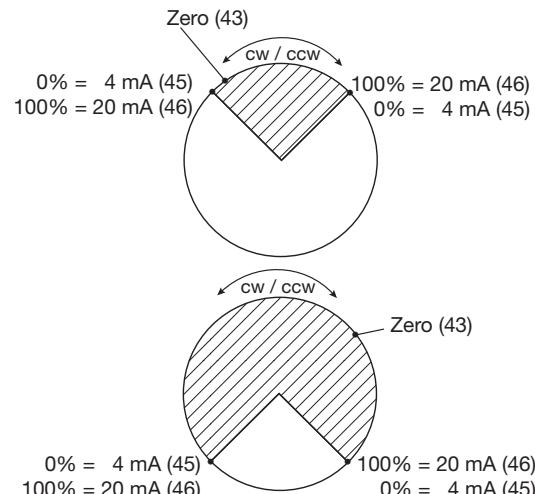
Portare il rilevatore nella posizione finale e impostare 20 mA = 100%. (46 Trim Loop Current Gain [20 mA])

- Set the:
- 1 4mA
- 2 20mA**
- 3 Exit

ABORT    ENTER

### 2.4 Definizione del senso di rotazione

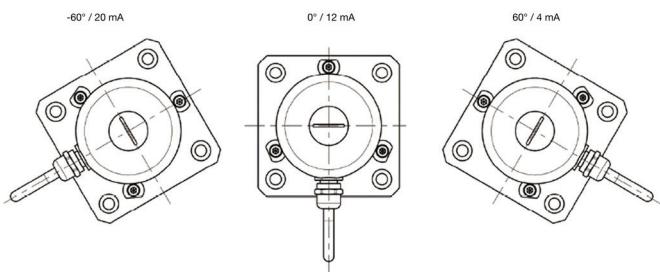
Il senso di rotazione viene definito tramite l'impostazione dei parametri Trim Loop Current Zero [4 mA], Trim Loop Current Gain [20 mA] e della posizione del punto zero.



### 3. Programmazione caso applicativo 2:

#### Definire lo zero

Nel caso applicativo 2, il campo di misura 4 ... 20 mA è diviso simmetricamente tra due angolazioni fisse (p. es. -60° ... +60°).



#### 3.1 Modalità di programmazione

Selezionare Device setup

Generic:N702INOX  
Online(Generic)

**1 Device setup**

2 PV	43.281 deg
3 PV Loop current	13.923 mA
4 PV LRV	-180.000 deg
5 PV URV	180.000 deg

SAVE

Selezionare Detailed setup

Generic:N702INOX  
Device setup

**4 Detailed setup**

- 1 Process variables
- 2 Diag/Service
- 3 Basic setup
- 4 Detailed setup**
- 5 Review

SAVE HOME

Selezionare Signal conditions

Generic:N702INOX  
Detailed setup

**2 Signal condition**

- 1 Sensors
- 2 Signal condition**
- 3 Output condition
- 4 Device information

SAVE HOME

#### 3.2 Definire lo zero

Impostare lo zero come descritto al punto 1.3.

#### 3.3 Campo di misura

Selezionare Primary Variable Upper Range Value (PV URV)

Generic:N702INOX  
Signal condition

1 PV Damp	0.000 s
<b>2 PV URV</b>	<b>60.000 deg</b>
3 PV LRV	-60.000 deg
4 PV Xfer fnctn	Linear
5 PV % rnge	50.933 %

HELP SAVE HOME

Impostare l'angolazione desiderata (p. es. 60.00°)

Generic:N702INOX

<b>1 PV URV</b>	<b>60.000 deg</b>
2 PV LRV	-60.000 deg

HELP HOME

Selezionare Primary Variable Lower Range Value (PV LRV)

Generic:N702INOX  
Signal condition

1 PV Damp	0.000 s
2 PV URV	60.000 deg
<b>3 PV LRV</b>	<b>-60.000 deg</b>
4 PV Xfer fnctn	Linear
5 PV % rnge	50.934 %

HELP SAVE HOME

Impostare l'angolazione desiderata (p. es. -60.00°)

Generic:N702INOX

1 PV URV	60.000 deg
<b>2 PV LRV</b>	<b>-60.000 deg</b>

HELP HOME

#### 3.3 Definizione del senso di rotazione

Il senso di rotazione viene definito tramite l'impostazione dei segni +/- per limite superiore e limite inferiore.

