FIFE GUIDING SOLUTIONS

FIFE SE–46C and Web Guide Controllers
Commissioning Manual

EN

OI–TS firmware version 002 and later

MI 1071 1
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About these commissioning instructions

These commissioning instructions describe how to calibrate the analog signal inputs of the web guide controller with the sensor SE-46C connected to it.

The commissioning instructions must be kept in a safe place and must always be available throughout the service life of the SE-46C digital line sensor.

Note:
For further information and safety instructions regarding the web guide controller and sensor SE-46C, please consult the relevant operating instructions in the system documentation.

Translation of the original Commissioning Manual:
This Commissioning Manual is a translation. The original Commissioning Manual was composed in German.
D-MAX Web Guide Controller

Note:
Detailed information about sensor calibration is available in the "D-MAX Operating Instructions". "Supplementary Operating Instructions" may also be available.

Precondition:
The SE-46C sensor is connected to the D-MAX controller as specified in the system diagram to X5 or X9.

The SE-46C must be operated from the OI-TS operator interface, not from the OI-N operator interface of the D-MAX system.

1. Calibrating the analog signal inputs of the D-MAX controller

Note:
Calibration for analog control signals must only be performed if the SE-46C sensor is not connected via an Ethernet cable with the D-MAX Controller.

1.1. Preparing the D-MAX controller for the calibration

D-MAX OI-N operator interface:
- Press the A key to select the D-MAX controller to which the SE-46C sensor is connected
- Press the F3 key to set "Manual" operating mode on the selected D-MAX controller
- Press the F4 key to
  - select the job with y = 'J' if the SE-46 sensor is connected to input X5 or
  - select the job with y = 'K' if the SE-46 sensor is connected to input X9.
The entry changes in the second place of the menu identification depending on the job selected.

**Note:** If the job cannot be selected with y = 'J' or y = 'K', the software of the D-MAX controller has not been prepared for analog sensor signals. Please check the system documentation!

The calibration process cannot be continued.

### 1.2. Call menu 1K.8.3

*Simulate Analog Signals on the SE-46C*

The analog signals required for the calibration are simulated by sensor SE-46C.

**OI-TS operator interface:**
- Select menu 1K.8.3 *Simulate Analog Signals*
  (Press the 6 button and hold it for 2 sec. → Press the 8 button Startup → Press the 3 button Simulate Analog Signals)
- Press the RETURN button to confirm the information in the display

### 1.3. Calibrating the locking signal on the D-MAX controller

Depending on how the sensor is connected to the D-MAX controller, perform the calibration for:
- S 01 – Locking signal (menu 1y.5.1.1) if the SE-46C sensor is connected to input X5 or for
- S 03 – Locking signal (menu 1y.5.1.3) if the SE-46C sensor is connected to input X9.

**OI-TS operator interface:**
- Select signal assignment 0 mA
D-MAX OI-N operator interface:
- Select menu 1y.5.1.1.1 for S 01 or 1y.5.1.3.1 for S 03
  (Hardware IOs → Sensor Setup → S 01 (X5/1) or S 03 (X9/1)
   → Calibration → 1. Reference Value (Lower Limit))

- Press the ENTER key

OI–TS operator interface:
- Select signal assignment 10mA

D-MAX OI-N operator interface:
- 2. Reference Value (Upper Limit))

- Press the ENTER key

- Press the ENTER key to save the calibration

1.4. Calibrating the position signal on the D-MAX controller

Depending on how the sensor is connected to the D-MAX Controller, perform the calibration for:
- S 02 – Position signal (menu 1y.5.1.2) if the SE-46 sensor is connected to input X5 or for
- S 04 – Position signal (menu 1y.5.1.4) if the SE-46 sensor is connected to input X9

OI–TS operator interface:
- Select signal assignment 0mA
D–MAX OI–N operator interface:
- Select menu 1y.5.1.2.1 for S 02 or 1y.5.1.4.1 for S 04
  (Hardware IOs → Sensor Setup → S 02 (X5/2) or S 04 (X9/2)
  → Calibration → 1. Reference Value (Lower Limit))
- Press the ENTER key

OI–TS operator interface:
- Select signal assignment 10mA

D–MAX OI–N operator interface:
- 2. Reference Value (Upper Limit)
- Press the ENTER key
- Press and hold the ESC key until you reach the user level of
  the D–MAX controller

1.5. Exit menu 1K.8.3
*Simulate Analog Signals on
the SE–46C*

OI–TS operator interface:
- Press the CONFIRMATION button to exit menu 1K.8.3
- Press the RETURN button twice to return to the operator level

2. Setting the ASC
(Automatic Sensor Control)

Note:
Connection to X5: job with y = 'J'
Connection to X9: job with y = 'K'
2.1. Setting ASC thresholds

**D-MAX OI-N operator interface:**
- Select menu 1y.3.y6.2 (Job Settings → ASC → ASC Threshold 1 (Pos))
- Set ASC threshold 1 (pos) to 90.0%

**D-MAX OI-N operator interface:**
- Select menu 1y.3.y6.3 (Job Settings → ASC → ASC Threshold 2 (Neg))
- Set ASC threshold 2 (neg) to −90.0%

2.2. Switching on the ASC function

**D-MAX OI-N operator interface:**
- Select menu 1y.3.y6.1 (Job Settings → ASC → ASC State)
- Set the ASC State to ON

3. Setting the polarity and gain

**Note:**
Connection to X5: job with y = ‘J’
Connection to X9: job with y = ‘K’

3.1. Setting the polarity

The guiding direction (polarity) must be checked depending on the mechanical installation direction of the system and adjusted if necessary.

**D-MAX OI-N operator interface:**
- Select menu 1y.3.y8 (Job Settings → Polarity)
- Set the polarity

3.2. Setting the gain

The gain must be set optimally.

**D-MAX OI-N operator interface:**
- Select menu 1y.3.y3 (Job Settings → Gain)
- Set the gain

Gain

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Operation

Note:
Depending on whether the sensor is connected to X5 or X9, operation on the D-MAX Controller in „Automatic“ operating mode will proceed with job ‘J’ or ‘K’.
3 COMMISSIONING OF DP-20 / DP-30

DP–20 / DP–30 Web Guide Controller

Note:
You can find detailed information about sensor calibration in the "DP–20 Operating Instructions" and in the "DP–30 Operating Instructions".

The DP–20 must be equipped with firmware version 1.05 or higher.

Precondition:
The SE–46C sensor is connected to the DP–20 web guide controller on input X4 or to the DP–30 web guide controller on input X5. The calibration described here only applies to this input.

The SE–46C is operated from the OI–TS operator interface.

1. Calibrating the analog signal inputs of the DP–20 / DP–30

1.1. Preparing the DP–20 / DP–30 for calibration

DP–20 / DP–30 web guide controller:
- Press the Manual key to set „Manual“ operating mode
- Select menu 3x.2.7 Set sensor type
  (Manual → Special → Set sensor type)
- Set the sensor type to LINE SENSOR
1.2. Call menu 1K.8.3

*Simulate Analog Signals* on the SE-46C

The analog signals required for the calibration are simulated by sensor SE-46C.

**OI-TS operator interface:**
- Select menu 1K.8.3 *Simulate Analog Signals*
  (Press the 6 button and hold it for 2 sec. ➔ Press the 8 button Startup ➔ Press the 3 button Simulate Analog Signals)
- Press the Return button to confirm the information in the display

1.3. Calibrating the locking signal on the DP-20/DP-30 web guide controller

**DP-20 / DP-30 web guide controller:**
- Select menu 3D.1.4.1 *Select Sensor*
  (Manual ➔ Basic ➔ Calibration ➔ Select Sensor)
- DP-20 controller: select \(X4\)
  DP-30 controller: select \(X5\)
  (line sensor – line centre \(\phi\))
- Press the ENTER key

**IO-TS operator interface:**
- Select signal assignment 0mA

**DP-20 / DP-30 web guide controller:**
- Determine the first reference value
- Press the ENTER key
1.4. Calibrating the locking signal on the DP-20/DP-30

**OI–TS operator interface:**
- Select signal assignment 10mA

**DP–20/DP–30 web guide controller:**
- Determine the second reference value
- Press the ENTER key

The DP–20/DP–30 web guide controller returns to the user area if the calibration was successful.

**DP–20/DP–30 web guide controller:**
- Select menu 3E.1.4.1 Select Sensor (Manual → Basic → Calibration → Select Sensor)
- DP–20 controller: select (X4)
- DP–30 controller: select (X5)
- (line sensor – print or material edge ⧲)
- Press the ENTER key

**OI–TS operator interface:**
- Select signal assignment 0mA

**DP–20/DP–30 web guide controller:**
- Determine the first reference value
- Press the ENTER key
COMMISSIONING OF DP-20 / DP-30

OI–TS operator interface:
- Select signal assignment 10mA

DP–20 / DP–30 web guide controller:
- Determine the second reference value
  - Press the ENTER key

The DP–20 / DP–30 web guide controller returns to the user area if the calibration was successful.

1.5. Exit menu 1K.8.3

Simulate Analog Signals on the SE–46C

OI–TS operator interface:
- Press the CONFIRMATION button to exit menu 1K.8.3
- Press the RETURN button twice to return to the operator level

2. Setting the ASC
(Automatic Sensor Control)

2.1. Selecting the ASC Source

DP–20 / DP–30 web guide controller:
- DP–20 controller: select menu 3D.5.3
- DP–30 controller: select menu 3D.5.4
  (Manual → Custom → ASC Source)
- As ASC source select Line sensor – Line edge

2.2. Setting ASC limits

DP–20 / DP–30 web guide controller:
- DP–20 controller: select menu 3D.5.2
- DP–30 controller: select menu 3D.5.3
  (Manual → Custom → ASC Limits)
- Set the values of the ASC limits to the range from −90% to +90%
2.3. Switching on ASC locking

**DP-20 / DP-30 web guide controller:**
- DP-20 controller: select menu 3D.5.1
- DP-30 controller: select menu 3D.5.2
  (Manual → Custom → ASC Control)
- Set the status of *ASC locking* to **ON**

3. Setting the polarity and gain

**Note:**
Settings must be made for sensor mode D – Line centre $\Phi$.

3.1. Setting polarity

The guiding direction (polarity) must be checked depending on the mechanical installation direction of the system and adjusted if necessary.

**DP-20 / DP-30 web guide controller:**
- Select menu 3D.1.3
  (Manual → Basic → Polarity)
- Set the *polarity*

3.2. Setting gain

Gain must be set optimally.

**DP-20 / DP-30 web guide controller:**
- Select menu 3D.1.1
  (Manual → Basic → Gain)
- Set the *gain*

**Operation**

**Note:**
The DP-20 / DP-30 web guide controller must be operated in „Automatic“ mode with sensor mode D – Line centre $\Phi$. 

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**FIFE-500 Web Guide Controller**

**Note:**
Detailed information about sensor calibration is available in the „FIFE-500 Operating Instructions“.

**Precondition:**
The SE-46C sensor must be connected to the FIFE-500 web guide controller according to the system diagram in the system documentation.

The SE-46C is operated from the OI-TS operator interface.

1. **Calibrating the analog signal inputs of the FIFE-500 controller**

1.1. Preparing the FIFE-500 controller for the calibration

**FIFE-500 operator interface:**
- Press the Manual button to set „Manual“ operating mode
- Select menu 1x.2.2 *Control Options* (Press Setup button → Press Right Arrow button → Press Control Options button)
- Set the *sensor type* to *Line*
- Press the ENTER button
- Press the RETURN button to return to the operator level
1. Press the SENSOR button until sensor line centre – φ is selected (menu 1E)

1.2. Call menu 1K.8.3

Simulate Analog Signals on the SE-46C

The analog signals required for the calibration are simulated by sensor SE-46C.

**OI–TS operator interface:**

- Select menu 1K.8.3 *Simulate Analog Signals*
  (Press the 6 button and hold it for 2 sec. → Press the 8 button Start → Press the 3 button Simulate Analog Signals)

- Press the RETURN button to confirm the information in the display

1.3. Calibrating the locking signal on the FIFE-500 web guide controller

**FIFE-500 operator interface:**

- Select menu 1E.1.7 *Sensor Setup*
  (Press Setup button → Press Sensor Setup button)

- Press the START CALIBRATION button

**OI–TS operator interface:**

- Select signal assignment 0mA

**FIFE-500 operator interface:**

- Press the button to determine the first reference value
1.4. Calibrating the locking signal on the FIFE-500

**OI-TS operator interface:**
- Select signal assignment 0mA

**FIFE-500 operator interface:**
- Press the button to determine the first reference value

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1.4. Calibrating the locking signal on the FIFE-500

**FIFE-500 operator interface:**
- Press the SENSOR button until sensor material or printing edge $\square$ (S1) is selected
- Press the START CALIBRATION button

**OI-TS operator interface:**
- Select signal assignment 10mA

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1.4. Calibrating the locking signal on the FIFE-500

**FIFE-500 operator interface:**
- Press the button to determine the second reference value

**OI-TS operator interface:**
- Press the YES button to save the calibration
1.5. Exit menu 1K.8.3
Simulate Analog Signals on the SE-46C

**OI–TS operator interface:**
- Press the CONFIRMATION button to exit menu 1K.8.3
- Press the RETURN button twice to return to the operator level

2. Setting the ASC (Automatic Sensor Control)

**FIFE–500 operator interface:**
- Select menu 1E.1.5.1.3
  (Press Setup button → Press ASC button → Press ASC Settings button)
- Select the ASC S2 tab
- Activate ASC State (LED green)
- Select S1 source
- Select Outside +/- mode
3. Setting the polarity and gain

3.1. Setting the polarity

The guiding direction (polarity) must be checked depending on the mechanical installation direction of the system and adjusted if necessary.

FIFE-500 operator interface:
- Select menu 1E.2.1
  (Press Setup button → Press Right Arrow button → Press Guide Settings button)
- Set the polarity for S2
- Press the ACCEPT button to exit menu

3.2. Setting the gain

The gain must be set optimally.

FIFE-500 operator interface:
- Select menu 1E.1.6.
  (Press Setup button → Press Gain button)
- Set the gain
- Press the ACCEPT button to exit menu

Operation

Note:
The FIFE-500 web guide controller must be operated in „Automatic“ mode with sensor mode E – Line centre $\Phi$ (S2).

- Set ASC Threshold 1 (Pos) to 29490
- Set ASC Threshold 2 (Neg) to -29490
- Press the ACCEPT button to exit menu

Press ASC ON button

The "ASC ON" symbol appears in the menu header and in the operator level
Note:
Detailed information about sensor calibration is available in the "CDP-01 Operating Instructions". "Supplementary Operating Instructions" may also be available.

If the system documentation includes "Supplementary Operating Instructions" for the CDP-01, follow the sequence described in that manual for commissioning the CDP-01.

Precondition:
The SE-46 sensor is connected to the CDP-01 web guide controller on input X3. The calibration described here only applies to this input.

The SE-46C is operated from the OI-TS operator interface.

1. Calibrating the analog signal inputs of the CDP-01

1.1. Preparing the CDP-01 for the calibration

CDP-01 web guide controller:
- Press the DRIVE SELECTION key (20) to select the desired drive
- Press the MANUAL key (3) to set "Manual" mode on the CDP-01
1.2. Call menu 1K.8.3
*Simulate Analog Signals* on the SE-46C

The analog signals required for the calibration are simulated by sensor SE-46C.

**OI-TS operator interface:**
- Select menu 1K.8.3 *Simulate Analog Signals* (Press the 6 button and hold it for 2 sec. → Press the 8 button Startup → Press the 3 button Simulate Analog Signals)
- Press the RETURN button to confirm the information in the display

1.3. Calibrating the position signal on the CDP-01

**CDP-01 web guide controller:**
- Press the SETUP key (13)

**OI-TS operator interface:**
- Select the sensor for line guiding
  Continue pressing the SENSOR key (8) until LED 11 is lit

**CDP-01 web guide controller:**
- Press the F1 key (4) to determine the first reference value

**OI-TS operator interface:**
- Select signal assignment 0mA

**CDP-01 web guide controller:**
- Press the F1 key (4) to determine the first reference value

**OI-TS operator interface:**
- Select signal assignment 10mA
CDP-01 web guide controller:
- Press the F2 key (5) to determine the second reference value
- Press the AUTOMATIC key (1) to save the calibration

1.4. Calibrating the locking signal on the CDP-01

CDP-01 web guide controller:
- Press the SETUP key (13)
- Select the sensor for line guiding
  Continue pressing the SENSOR key (8) until LED 12 is lit

OI–TS operator interface:
- Select signal assignment 0mA

CDP-01 web guide controller:
- Press the F1 key (4) to determine the first reference value

OI–TS operator interface:
- Select signal assignment 10mA

CDP-01 web guide controller:
- Press the F2 key (5) to determine the second reference value
- Press the AUTOMATIC key (1) to save the calibration
1.5. Exit menu 1K.8.3

Simulate Analog Signals on the SE-46C

**OI–TS operator interface:**
- Press the CONFIRMATION button to exit menu 1K.8.3
- Press the RETURN button twice to return to the operator level

2. Setting the ASC
(Automatic Sensor Control)

2.1. Sensor selection for line guiding

**CDP–01 web guide controller:**
- Select the sensor for line guiding
Continue pressing the SENSOR key (8) until LED 11 is lit

2.2. Setting ASC thresholds on the CDP–01

**CDP–01 web guide controller:**
- Press the SETUP key (13)
- Press the ASC key (7)
- Press the F1 key (4) to select the left ASC threshold
- Use the + or - key to set the left ASC threshold so that the first and second LED from the left on the LED bar are lit
- Press the F2 key (5) to select the right ASC threshold
- Use the + or - key to set the right ASC threshold so that the first LED from the right on the LED bar is lit
- Press the AUTOMATIC key (1) to save the settings
2.3. Switching on the ASC function

**CDP-01 web guide controller:**
- Press the ASC key (7) to turn on the ASC function → LED 7 is lit

3. Setting the polarity and gain

**Note:**
Settings must be made for sensor mode LED11 - Line centre.

3.1. Setting the polarity

The guiding direction (polarity) must be checked depending on the mechanical installation direction of the system and adjusted if necessary.

**CDP-01 web guide controller:**
- Continue pressing the SETUP key (13) until LED 17 is lit
- Continue pressing the SENSOR key (8) until LED 11 is lit
- Set the *guiding direction*

**Note:**
Additional information may be found in the section entitled "Changing the Guide Direction" in the "CDP-01 Operating Instructions".

3.2. Setting the system gain

The system gain setting must be optimal.

**CDP-01 web guide controller:**
- Continue pressing the SETUP key (13) until LED 16 is lit
- Set the *system gain*

**Note:**
Additional information may be found in the sections "Changing the System Gain with the web at Standstill" and "Changing the System Gain with the web in Motion" in the "CDP-01 Operating Instructions".
Operation

The CDP-01 web guide controller must be operated in "Automatic" mode with sensor mode LED11 – Line centre.

Note:
Requests for Service

When requesting service, please have a copy of the order confirmation ready with the order number.

When requesting replacement parts, please indicate also the part numbers, drawing numbers, model descriptions and configuration number.

Please be careful to keep all documents accompanying the product in a safe place. This will allow us to help you more quickly in the event that service is required.

Addresses

To request service, or if you need replacement parts, please contact one of the following addresses.

**Fife-Tidland GmbH**
Max-Planck-Straße 8   Siemensstraße 13–15
65779 Kelkheim   48683 Ahaus
Deutschland   Deutschland
Telefon: +49 – 6195 – 7002 – 0
Fax: +49 – 6195 – 3018
E-Mail: service@maxcess.eu
Web: www.maxcess.eu

**Fife Corporation**
Post Office Box 26508
Oklahoma City, OK 73126, USA
Telefon: +1 – 405 – 755 – 1600
Fax: +1 – 405 – 755 – 8425
E-Mail: service@maxcessintl.com
Web: www.maxcessintl.com