Universal Transmitter
Power Supply
KF**-CRG2-(Ex)1.D
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version as well as the supplementary clause: “Expanded reservation of proprietorship”
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Symbols Used

1 Symbols Used

Warning
This symbol warns of possible danger.
Failure to heed this warning may result in personal injury or death, or property damage, including destruction.

Attention
This symbol warns the user of a possible fault.
Failure to heed this warning can lead to total failure of the device and any other connected equipment.

Note
This symbol draws attention to important information.

2 Overview

2.1 Range of Application

The K-System devices from Pepperl+Fuchs are used for transmitting signals between field devices and a process control system/control system.

The devices marked with “Ex” in the type designation are suitable for the connection of field devices used in potentially explosive atmospheres. Safe field circuits for these devices are intrinsically safe and are galvanically isolated from non-intrinsically safe circuits. The devices thus establish an electromagnetic separation between the potentially explosive atmospheres and the safe areas in a system.

Devices without Ex-identification can be used to transmit signals between field devices and the process control system/control unit.

Transmitters are measuring units that provide an output signal consisting of a unit current signal (4 mA to 20 mA). A transmitter power supply provides a transmitter with power and processes the current signal.
The K-System Universal Transmitter Power Supply KF**-CRG2-(Ex)1.D converts a fully parameterizable partition of input signal in a proportional output current (4 mA to 20 mA). This output signal will be transferred to indicators or to analogue inputs on the process control system/control system, for example. Both relay outputs of the device can monitor two fully parameterizable trip values of the input signal.

More information (for example, certificates and datasheets for the device and the operating manual for the K-System) can be found on our webpage www.pepperl-fuchs.com (enter "CRG2" in the product search).

2.2 Model Versions

The following variants of the Universal Transmitter Power Supply are available:

- **Ex** = for connection of field devices in areas exposed to danger of explosion
- **without identifier letters** = for connection of field devices in the safety area

- **D2** = with a 24 V DC supply (green identification on output side); for power supply via Power Rail with collective error message; please see datasheets and operating manual for the K-System. This information can be found on our webpage www.pepperl-fuchs.com (enter "CRG2" in the product search)

- **U8** = with an AC/DC wide range supply providing power supply at 20 V DC to 90 V DC and 48 V AC to 253 V AC without selection and without notice of polarity (grey identification on output side)
3 Safety Instructions

The device may only be operated by trained professionals in a manner corresponding to this operating manual.

**Warning**

The protection of operating personnel and of the system is only ensured if the devices are used in accordance with their intended purpose. Any other type of operation than that described in this manual places the safety and functionality of the devices and systems connected to them in question.

**Warning**

The devices may only be installed, connected, and adjusted by electrical professionals outside the hazardous area.

**Warning**

If faults cannot be eliminated, the devices must be taken out of operation and protected from being placed in service again inadvertently. Devices must only be repaired directly by the manufacturer Pepperl+Fuchs. Tampering with or making changes to the devices is dangerous and therefore not permitted. They render the warranty void.

**Warning**

The responsibility for the adherence to local safety standards lies with the operator.

---

Note: This text is adapted to the new edition of the Ex-protection manual, if this is available.
4 Explosion Protection

For primary explosion protection, that is, for measures to be taken to prevent or hinder the development of a dangerous explosive atmosphere, observe the directive 2014/34/EU and the corresponding national guidelines.

For secondary explosion protection, that is, for measures to hinder the ignition of a surrounding explosive atmosphere by electrical devices, Pepperl+Fuchs will make the explosion protection compendium available to you.

Note in particular EN 60079-0, EN 60079-11 and EN 60079-15 or the corresponding national guidelines.

Pepperl+Fuchs also offers a seminar on the topic of explosion protection.

5 Installation and Connection

5.1 Installation

The device is constructed in protection degree IP20 and must therefore be protected from undesirable ambient conditions (water, small foreign objects).

Attention

The devices of the K-system from Pepperl+Fuchs and thus also the Universal Transmitter Power Supply KF**-CRG2-(Ex)1.D can be mounted on a 35 mm DIN mounting rail according to DIN EN 60715. The devices must be snapped onto the rail vertically, and never slanted or tipped to the side.

Additional possibilities for mounting, e.g. using the Power Rail, can be found in the datasheets and in the K-System operating manual on our webpage www.pepperl-fuchs.com (enter "CRG2" in the product search).
Universal Transmitter Power Supply KF**-CRG2-(Ex)1.D
Installation and Connection

Dimensions of the device in mm

5.2 Connection

The removable terminals considerably simplify the connection and the switch cabinet assembly. They make it possible to replace devices quickly and without error if a customer service becomes necessary. Terminals are equipped with screws, are self-opening, have a large connection area for a wire cross-section up to 2.5 mm² and coded plugs, making it impossible to mix them up.
5.2.1 Connection Input (Field Circuit)

The intrinsically safe field circuit is connected to the blue terminals 1 to 3 on the KF**-CRG2-Ex1.D. This may be conducted using DIN EN 60079-14-compliant leads into the hazardous area.

The non-intrinsically safe field circuit is connected to the green terminals 1 to 3 on the KF**-CRG2-1.D.

In both cases you can connect the following field devices:
1. a 3-wire transmitter
2. a 2-wire transmitter with HART
3. an active current source
5.2.2 Connection Output

The control circuit and the power supply are connected to the green terminals 7 to 24 on the device.

The terminals have the following functions:

- Terminals 7/8: current output (terminal 9 not used)
- Terminals 10 to 12: relay 1
- Terminals 16 to 18: relay 2
- Terminals 23/24: (terminal 22 not used)
  - KFD2: 24 V DC power supply
  - KFU8: AC/DC power supply

Terminals 4 to 6, 13 to 15 and 19 to 21 do not exist on the device.

More information on connecting the device (e.g., using the Power Rail) can be found in the datasheets and the K-System operating manual on our webpage www.pepperl-fuchs.com (enter "CRG2" in the product search).
5.3 Field Device Communication via HART

In order to set the parameters of the connected HART field device, you will require a HART communicator which you can connect to the field cables. Transmitting the HART signal via the current output of the device is not possible.

When connecting the field cables, use an communicator for hazardous areas if the field cables of the device lead through a hazardous area.

Warning

5.4 Front Side

The following indicating and operating elements are located on the front of the device:

- LED CHK (red) to indicate a device fault
- LED PWR (green) to indicate the presence of the supply voltage
- LED OUT 1 (yellow) to indicate that relay 1 is active
- LED OUT 2 (yellow) to indicate that relay 2 is active
- Display for indication of the measured values, fault messages and parameterization modi
- Four keys for setting the parameters of the device: ▲ (Up) ▼ (Down) ESC (Escape) OK
- Interface for connecting a computer for parameterization and diagnostics of the device with the PACTware™ operating software, using the K-AOP-USB adapter

When connecting the field cables, use an communicator for hazardous areas if the field cables of the device lead through a hazardous area.

Warning
6 Display Modes and Fault Messages

In normal operation, the current measured value is indicated in the selected unit. For information on selecting the unit, see section 7.2.

If the Alarm freeze (see section 7.4.3) is triggered but the device continues operating normally, a corresponding message appears in the second line of the display.

If a fault occurs, one of the following messages is displayed until the fault is rectified (when parameterized):

- **Err Mem** for device fault,
- **Err LB** for lead breakage,
- **Err SC** for short circuit

For the selection of error messages see section 7.3.1.

If switching the device on/off and checking the cables does not rectify the fault, please contact Pepperl+Fuchs or the field device manufacturer.

The relays de-energizes when a fault occurs.

For information on the behaviour of the current output in the event of fault, see section 7.5.2.

---

**Note**

The display of the device is updated at regular intervals. This can cause a short flickering of the display. This flickering isn’t a defect of the display.
7 Editing Device Data

A change in device data will change the operation of the device!
Before entering new data into the device, you should ascertain that no danger to the installation will result.

In this manual, the parameterisation of the device via the control panel is described. Parameterisation by means of a PC is more convenient. The necessary K-ADP-USB can be ordered from Pepperl+Fuchs. The PACTware™ operating software and the manual are available on our Internet page www.pepperl-fuchs.com under Software > PACTware.

7.1 Parameterization Mode

7.1.1 Invocation

You can return to display mode from any point in the menu in parameterization mode by pressing the ESC key (possibly multiple times). If you do not press any key for 10 minutes in parameterization mode, the device automatically switches back into display mode.
### 7.1.2 Password

You can protect the parameterization from unauthorized changes by means of a password (see section 7.6; at the delivery of the device, the password is inactive).

If the password protection is active, you can view the different settings in the parameterization mode, but not change them before entering the password. On the first attempt to make a change, the device immediately prompts for a password.

The password must be entered for each transition from display mode to parameterization mode, once each time.

The password cannot be changed. It is 1234. The password is entered as follows:

<table>
<thead>
<tr>
<th>Change attempt</th>
<th>automatic switch to password entry</th>
<th>parameters still protected</th>
<th>ESC</th>
<th>value 0, flashing</th>
<th>▲, ▼, ◀, ◁</th>
<th>OK, wrong value</th>
<th>new value, flashing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* If you press the ▲ or ▼ key, the value changes step by step. If you hold the ▲ or ▼ key, the setting "rolls" to higher or lower values.
7.1.3 Navigation Method

The following diagram shows the navigation method in parameterization mode using the ▲, ▼, OK and ESC keys:

```
Rel1 OK → Min/Max

▲ ▼

← ESC Trip

▲ ▼

← ESC Hysteresis

▲ ▼

← ESC Mode OK → Active

▲ ▼

← ESC Alarm freeze

▲ ▼

← ESC Delay
```
7.1.4 Lowest Menu Level: Select Values, Enter Numeric Values

On the lowest level of the menu, you can either select one of several possible values, or enter a number for the individual parameters.

Proceed as follows:

When entering numeric values, please note:

- If you press the \(\uparrow\) or \(\downarrow\) keys, the value changes step by step.
- If you hold the \(\uparrow\) or \(\downarrow\) keys, the value "rolls" to higher or lower values.
- The algebraic sign changes automatically.
- The decimal point is moved automatically.
7.2 Unit

The following diagram shows the unit menu. Items from the lowest menu level are outlined in bold. The device measures in mA. Using the parameters zero point and conversion factor (section 7.3.2) it converts the measured value into the selected units. These units are used for the display of the measured values and for all corresponding settings in the parameterization mode.

![Diagram of unit menu]

Continued from the left:
- °F
- °C
- bar
- Pa
- N
- t
- kg
- km/h
- m/s

Continued right:
- m
- m³/h
- l/h
- l/min
- l
- m³
- %
- mA
7.3 Input

The following diagram shows the input parameters menu. Items from the lowest menu level are outlined in bold.

The menu items Zero point and Conversion factor will not be shown if the unit mA is selected (section 7.2).

- Zero point (7.3.2) -15 mA to 15 mA
- Conversion factor (7.3.2) 0.100 to 5000
- Linearization (7.3.3) Linearization On
- Linearization Off
- Smoothing (7.3.4) 0 s to 255 s
7.3.1 Line Monitor

- If you select On for LB, an input current < 0.2 mA will be registered as a lead break (section 6).
- If you select On for SC, an input current > 22 mA will be registered as a short circuit (section 6).

If you wish to process the ≤ 0.2 mA input values as measured values, you must deselect the lead breakage detection (Off LB). If not, an fault will be signalled within the measuring range.

7.3.2 Zero Point and Conversion Factor

The device measures in mA. If you have selected different units (section 7.2), the device calculates the measured value in the selected units using the parameters Zero point and Conversion factor.

The parameters for your application must be determined according to the following formula:

\[
\text{Measured value in the selected units} = (\text{Original measured value} \text{ [mA]} - \text{Zero point}) \times \text{Conversion factor}
\]

An arbitrary value between -15 mA and +15 mA can be set as the Zero point, and values between 0.100 and 5000 as the Conversion factor.

The following includes examples where the formulas are applied.
Example 1: selected unit °C, 0 °C to 200 °C is to correspond to 4 mA to 20 mA

- Linearization
  \[ y = mx + n \]

- Conversion factor = rise in the graph
  \[ m = \frac{(y_2 - y_1)}{(x_2 - x_1)} \]
  \[ m = \frac{(200 - 0)}{(20 - 4)} = 12.5 \]

- Zero point = intersection point with the x-axis on the graph, providing that the physical measuring range starts from 0 (y = 0 °C). The zero point corresponds to the lower measuring range limit (x = 4 mA) from which the measuring range starts.

The zero point can be calculated as follows:

\[ n = y - mx \]
\[ n = 200 - 12.5 \times 20 = -50 \]
\[ y = mx + n \]
\[ x = \frac{(y - n)}{m} \]
\[ x = \frac{(0 - 50)}{12.5} = 4 \]
Example 2: selected unit °C, 0 °C to -100 °C is to correspond to 20 mA to 0 mA

- **Linearization**
  \[ y = mx + n \]

- **Conversion factor = rise in the graph**
  \[ m = (y_2 - y_1) / (x_2 - x_1) \]
  \[ m = (100 - 0) / (20 - 0) = 5 \]

- **Zero point = intersection point with the x-axis on the graph, with the condition that the physical measuring range starts from 0 (y = 0 °C). The zero point corresponds to the upper measuring range limit (x = 20 mA) at which the measuring range ends.**

The zero point can be calculated as follows:

\[ n = y - mx \]
\[ n = -100 - 5 \times 0 = -100 \]
\[ y = mx + n \]
\[ x = (y - n) / m \]
\[ x = (0 - (-100)) / 5 = 20 \]
Example 3: selected unit bar, -4 bar to 4 bar is to correspond to 4 mA to 20 mA

- Linearization
  \[ y = m \times x + n \]
- Conversion factor = rise in the graph
  \[ m = \frac{(y_2 - y_1)}{(x_2 - x_1)} \]
  \[ m = \frac{(4 - 0)}{(20 - 12)} = 0.5 \]
- Zero point = intersection point with the x-axis on the graph (bar value at \( y = 0 \))
  \[ n = y - m \times x \]
  \[ n = 4 - 0.5 \times 20 = -6 \]
  \[ y = m \times x + n \]
  \[ x = (y - n) / m \]
  \[ x = (0 + 6) / 0.5 = 12 \]
7.3.3 Linerization
Using the parameterization software PACTware™ a linearization table can be saved in the device; for details of this function see On-line help. Via the operator panel you can merely switch the use of the table for the calculation of the output value on and off (On/Off).

7.3.4 Smoothing
For extremely variable measurement values, you can use Smoothing to influence how quickly an output reacts to a change in input value: 0 s = no smoothing, 255 s = maximum smoothing.
7.4 Relays

The following diagram shows the relay outputs menu. Items from the lowest menu level are outlined in bold.

From the Rel1 and Rel2 menu options, you can use the OK key to get to a menu in which you can enter individual parameters for the selected relay. Both menus are structured in the same way and are thus only described once. Information about current output see section 7.5.

Continued on next page
7.4.1 Operating Behaviour

The switching direction can be set as Max or Min and the direction of action as Active or Passive (section 7.4).

Application ranges:
- Switching direction Max, mode of operation Active:
  - alarm on trip value overrange, e.g. audible alarm on
- Switching direction Max, mode of operation Passive:
  - switch off on trip value overrange, e.g. pump, heating, ... off;
  - with large hysteresis Min/Max operation (pump, heating, ... on/off)
- Switching direction Min, mode of operation Active:
  - alarm on trip value underrange, e.g. audible alarm on
- Switching direction Min, mode of operation Passive:
  - switch off on trip value underrange, e.g. pump, heating, ... off;
  - with large hysteresis Min/Max operation (pump, heating, ... on/off)
The exact operating behaviour of the device is shown in the following diagram:

- **Max**, mode of operation **Active**:
  - Energized
  - De-energized

- **Max**, mode of operation **Passive**:
  - Energized
  - De-energized

- **Min**, mode of operation **Active**:
  - Energized
  - De-energized

- **Min**, mode of operation **Passive**:
  - Energized
  - De-energized
7.4.2 Trip and Hysteresis

When entering the values for Trip and Hysteresis please note:

- Both values are to be entered in the units, which were selected under Units (section 7.2).
- You can enter values
  - between 0 mA and 24 mA and
  - between the converted values of these limits in the selected units; for conversion using the parameters Zero point and Conversion factor see section 7.3.2
- The hysteresis must be selected as > 1 % of the trip point to prevent the relay from vibrating.
- As the representation of the operating behaviour in section 7.4.1 shows, the following must apply:
  - for the switching direction Max: Trip point - Hysteresis > 0
  - for the switching direction Min: Trip point + Hysteresis < upper limit trip point

These input limits are automatically preset by the device.

7.4.3 Alarm Freeze

The Alarm freeze helps you to avoid that short-term trip value overranges are not noticed by the operating staff.

If Alarm freeze On has been selected, the new state is maintained after the relay switching until the ESC key is pressed or the device is restarted. These actions reset the relay, except for a trip value overrange.

7.4.4 Delay

If you set a time > 0 sec, you prevent short-time trip value overranges of the trip value from triggering an alarm.

- The relay only switches if the trip point is exceeded/fallen short of for a period that is longer than the delay time.
- The relay only switches back if the trip point ±/− hysteresis is fallen short of/exceeded for a period that is longer than the delay time.
- If the trip point is exceeded/fallen short of for a short time, this does not have any effects.
- You can adjust the delay time from 0 s to 250 s.
The following diagram shows the operating behaviour for the trip mode Max, operating mode Active.

- **Trip point Max**: The point at which the Max value is exceeded.
- **Max – hysteresis**: The hysteresis range around the Max value.
- **Switching direction**: The direction of switching is indicated (energized or de-energized).
- **Switching with delay**: The diagram shows the delay times associated with the switching process.
- **Time**: The horizontal axis represents time, with delays indicated at specific points.

The diagram illustrates how the system responds to input values, crossing the trip point and transitioning between energized and de-energized states with the specified delays.
7.5 Current Output

The following illustrations show the current output menus. Items from the lowest menu level are outlined in bold. Information about relay outputs see section 7.4.

Output → Rel1 → Rel2

- **Iout** Characteristics (7.5.1)
  - 0 mA to 20 mA
  - 4 mA to 20 mA NE43
  - 4 mA to 20 mA

- **Fault current (7.5.2)**
  - Up/Down
  - Hold
  - Max
  - Min

Continued on next page
7.5.1 Characteristic

With the parameters Start value and End value establish a sub-range of the input signal as the measuring range of the application (section 7.5.3). This measuring range is formed linearly on the output signal.

The following table shows, for the various characteristics (section 7.5), the conversion of the Start value and End value and the behavior during measuring overrange.

- The statements apply for the setting Inverted \(\rightarrow\) Normal.
- If you select Inverted \(\rightarrow\) Inverted, the conversion of Start value and End value are reversed. The start value is thus converted to 20 mA and the end value to 0 mA or 4 mA.
- Measuring overrange, which extend over the described linear range, cannot be evaluated. In the case of such overrange, the specified value is constantly output.
### Editing Device Data: Current Output

#### Characteristic Start value converted into  End value converted into  Linear underrange up to  Linear overrange up to

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Start value</th>
<th>End value</th>
<th>Linear underrange</th>
<th>Linear overrange</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 mA to 20 mA</td>
<td>0 mA</td>
<td>20 mA</td>
<td>0 mA</td>
<td>20.5 mA</td>
</tr>
<tr>
<td>4 mA to 20 mA NE43</td>
<td>4 mA</td>
<td>20 mA</td>
<td>3.8 mA</td>
<td>20.5 mA</td>
</tr>
<tr>
<td>4 mA to 20 mA</td>
<td>4 mA</td>
<td>20 mA</td>
<td>0 mA</td>
<td>approx. 22 mA</td>
</tr>
</tbody>
</table>

**Example of a diagram of a mA measurement range on the output signal**

Characteristic 4 mA to 20 mA NE43, start value 2 mA, end value 10 mA

![Diagram of mA measurement range](image)

**Example diagram displaying the input signal in °C to the output signal**

Characteristic 4 mA to 20 mA NE43, start value 0 °C, end value 200 °C (see example 1 in section 7.3.2)

![Diagram of °C measurement range](image)
7.5.2 Fault Current

The following table shows the current output in the event of a fault, depending on the characteristic.

<table>
<thead>
<tr>
<th>Setting</th>
<th>0 mA to 20 mA</th>
<th>4 mA to 20 mA NE43</th>
<th>4 mA to 20 mA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up/Down</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 mA</td>
<td>21.5 mA</td>
<td>21.5 mA</td>
<td>22 mA</td>
</tr>
<tr>
<td></td>
<td>with short-circuit</td>
<td>with short-circuit</td>
<td>with short-circuit</td>
</tr>
<tr>
<td>2.0 mA</td>
<td>0 mA</td>
<td>0 mA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>with lead breakage</td>
<td>(not distinguishable from Start value measurement)</td>
<td>(not distinguishable from End value overrange)</td>
</tr>
<tr>
<td>Hold</td>
<td>Last measured value before the fault</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max</td>
<td>21.5 mA</td>
<td>21.5 mA</td>
<td>22 mA</td>
</tr>
<tr>
<td></td>
<td>(not distinguishable from End value overrange)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min</td>
<td>0 mA</td>
<td>2.0 mA</td>
<td>0 mA</td>
</tr>
<tr>
<td></td>
<td>(not distinguishable from Start value measurement)</td>
<td>(not distinguishable from Start value underrange)</td>
<td></td>
</tr>
</tbody>
</table>

7.5.3 Start Value and End Value

Please note when entering Start value and End value:

- Both values are to be entered in the units, which were selected under Units (section 7.2).
- Values between 0 mA and 20 mA can be entered, or between the values of these limits converted into the selected units, using the parameters Zero point and Conversion factor see section 7.3.2

The difference between End value and Start value must be at least 1 % of the End value (preset automatically by the device).
7.6 Service

The following diagram shows the service parameter menus. Items from the lowest menu level are outlined in bold.

```
<table>
<thead>
<tr>
<th>Service</th>
<th>Password (7.1.2)</th>
<th>On</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Off</td>
</tr>
<tr>
<td>Language</td>
<td></td>
<td>DE (German)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ENG (English)</td>
</tr>
<tr>
<td>Reset (see below)</td>
<td>On</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Off</td>
</tr>
</tbody>
</table>
```

Reset: Pressing the OK key when On Reset is flashing resets all settings on the device to default (see section 7.7). Any entries that you have made in parameterization mode are lost.
### 7.7 Default Settings

<table>
<thead>
<tr>
<th>Menu</th>
<th>Parameter</th>
<th>Default setting</th>
<th>Separate value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main menu</td>
<td>Unit</td>
<td>mA</td>
<td></td>
</tr>
<tr>
<td>Input</td>
<td>Line monitor</td>
<td>On LB/On SC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Zero point</td>
<td>4.000 mA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conversion factor</td>
<td>0.100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Linearization</td>
<td>Off</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Smoothing</td>
<td>3 s</td>
<td></td>
</tr>
<tr>
<td>Output Rel1</td>
<td>Min/Max (= switching direction)</td>
<td>Min</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Trip</td>
<td>16.00 mA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hysteresis</td>
<td>2.000 mA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mode</td>
<td>Passive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Alarm freeze</td>
<td>Off</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Delay</td>
<td>0 s</td>
<td></td>
</tr>
<tr>
<td>Output Rel2</td>
<td>Min/Max (= switching direction)</td>
<td>Min</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Trip</td>
<td>2.000 mA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hysteresis</td>
<td>2.000 mA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mode</td>
<td>Active</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Alarm freeze</td>
<td>Off</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Delay</td>
<td>0 s</td>
<td></td>
</tr>
<tr>
<td>Output Iout</td>
<td>Characteristics</td>
<td>4 mA ... 20 mA NE43</td>
<td></td>
</tr>
</tbody>
</table>
## Editing Device Data: Default Settings

<table>
<thead>
<tr>
<th>Menu</th>
<th>Parameter</th>
<th>Default setting</th>
<th>Separate value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fault</td>
<td>Current</td>
<td>Min</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Start value</td>
<td>0.000 mA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>End value</td>
<td>20.00 mA</td>
<td></td>
</tr>
<tr>
<td>Inverted</td>
<td></td>
<td>Normal</td>
<td></td>
</tr>
<tr>
<td>Service</td>
<td>Password</td>
<td>Off</td>
<td></td>
</tr>
<tr>
<td>Language</td>
<td></td>
<td>ENG</td>
<td></td>
</tr>
</tbody>
</table>
Universal Transmitter Power Supply KF**-CRG2-(Ex)1.D

Notes