

D - Text Display for EASY500/700

| | |
|-----------------|----------------------------|
| Can be used for | |
| Device | From version no.: |
| EASY500 | 01 |
| EASY700 | 01 |
| EASY500/700 | 10 with new Cyrillic font. |

General

Text display

The devices each provide 16 Text display function relays for displaying user-defined texts. Up to 4 x 12 character lines can be displayed.

The texts can only be edited with EASY-SOFT. They can be stored in the project file *.e.. or also on the EASY-M-32K memory card.

Displayable font:

The ASCII letters can be displayed in upper and lower case.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z.

a b c d e f g h i j k l m n o p q r s t u v w x y z.

0 1 2 3 4 5 6 7 8 9

From EASY-SOFT version 6.x upward, the following special characters are permissible in addition to the space:

?á? ? ? ? ? ? ? =á! ? ° “ ” ! # \$ % & ' () * + , - . / : ; < = > ? [\] ^ _ ` { | }

You can edit Cyrillic upper case letters on EASY500/700 devices from the above version number.

Use this following link for a description how to [enter special characters](#).

Variable display

Actual values and setpoints of [function relays](#), [scalable actual values](#) of analog inputs and the current time and date can be displayed as required in lines 2 or 3. The control relay positions the variables from column 5.

Compatibility with EASY600

The text display of an EASY500/700 works in the same way as the text display of an EASY600.

If you wish to load an existing EASY600 circuit diagram, the available text display functions are retained.

Function

The D text display function relay functions in the circuit diagram like a normal M marker. A stored text is displayed when the coil (Dxx) is 1. For this to take place, the control relay must be in RUN mode and the Status display must be activated before the text is displayed.

If the status of the (Dxx) coil returns to 0, the control relay will reactivate the Status Display after 4 s.

Overlapping of text and variable display

If you have accidentally entered text from column 5 of lines 2 or 3, this will be possibly overwritten by the variable values.

Solution:

Enter blank spaces as placeholders in the variable positions if the text is to continue behind the displayed variable value.

Example: Five spaces TIME13:51 PM

Note: From device version no. 10 you can use some special characters in the text display, for displaying units and all Cyrillic upper case letters.

The text is entered in the usual way without having to select another character table.

Refer to the section [Creating texts with special characters](#) for information how to enter special characters or Cyrillic letters in upper case without the use of a suitable keypad.

Different Behaviour of the Function Relays D01 and D02 to D16

The following applies to function relay D01:

D01 is designed for outputting alarm texts. If a text has been assigned to D01 and it is activated, this text is shown permanently in the display until

- I Coil D01 is reset to 0.
- I Stop mode was selected.
- I The power supply of the control relay has been switched off,
- I A menu was selected via OK or DEL + ALT.

The following applies to function relays D02 to D16:

If several texts are present and have been triggered, each text is automatically displayed in turn every 4 s. This procedure is repeated until

- I no text display coil is set to 1.
- I Stop mode was selected.
- I The power supply of the control relay has been switched off,
- I a menu was selected via OK or DEL + ALT.
- I a setpoint is entered.
- I The text stored for D01 is displayed.

Linking and Parameter Assignment of a Text Display Function Relay

Requirements: You have included a control relay in the project and have switched to Circuit Diagram View.

Activating a text display function relay

- Position a D text display operand in the circuit diagram on a coil field so that you can activate a text display.
- In the Circuit Diagram Element tab of the Properties field window select the required function block number between 1 and 16, and the Contactor coil function. The contactor symbol will then be shown in the circuit diagram with the Dxx operand.
- To display text only click the Parameters button in the Parameters tab (see: [Creating texts](#) for a text display function relay).
- To display both text and a variable value you must select the required operand in the OP list box (see: [Parameter definition of variables](#) for a text display function relay).
- Connect the xDxx coil with an appropriate contact for triggering.

Evaluation of a text display contact

If you wish to check whether a D text display function relay triggered as a coil has switched, you must also link this function relay as a contact.

- Position the D function relay on a contact field and select the same function block number in the Circuit Diagram Element tab that you have assigned to its corresponding coil.
- If required, change the switch function of the contact from break to make contact.
- Connect this Dxx contact in the circuit diagram.

Resetting the text display function relay

- ▶ In order to reset the text display function relay and the associated switching contact, position the D function relay that has already been linked as a coil once more on a coil field in your circuit diagram.
- ▶ In the Circuit Diagram Element tab select the function block number between 1 and 16 that has already been used for the activation and the Reset coil function. The operand RDxx will now be shown in the circuit diagram.
- ▶ Connect the RDxx coil with an appropriate contact for activation.

Creating texts for a text display function relay

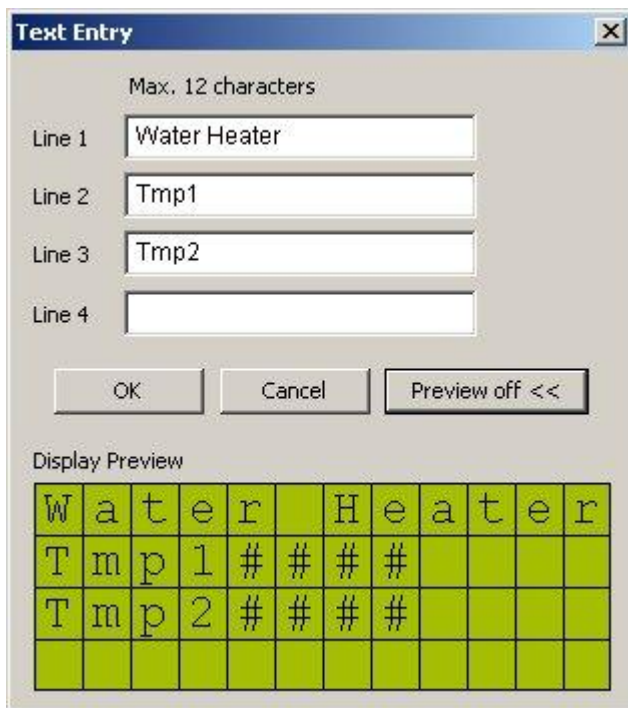


Figure: Text entry for a text display function relay

- ▶ Click the Text Entry button in the Parameters tab.

This will open the Text Entry dialog with the four editable display lines.

- ▶ Enter the required text in the display lines with up to 12 characters per line.

If you have also entered variable values in the display, these are represented in display lines 2 and 3 as a string of ##### characters.

Note: In Text entry mode the active preview displays the exact appearance of the text lines with any placeholders for variables.

- ▶ Click the Preview On button.

The bottom half of the dialog shows the display preview with the edited text lines.

Back to [Activating a text display function relay](#).

Parameter definition of variables for a text display function relay

In order to display variables in the display line 2 use the top OP, No. list boxes etc. and for display line 3 the list boxes at the bottom. The actual values of function relays, the scalable actual values of analog inputs, the current time and date can be displayed as variables.

The time (operand DH) is displayed in columns 5 to 9. The display lines 1 and 4 are reserved exclusively for text display.

► In the Parameters tab select the required operand from the [OP](#) list box.

The Display Preview area shows a string of ##### characters as placeholders for the variable. No other parameter definitions are required for displaying time and date. If you wish to display a function relay setpoint or the actual value of an analog input, you must also select the required function block number in the No. list box.

► Choose in the [No.](#) the required operand number.

► Set parameters for the actual value or [setpoint](#) as required.

► Click the [Scale Value Range](#) button if you wish to display an analog input as a scaled value.

► Select the Editable option if you wish to allow the operator to make setpoint alterations during operation.

► If required, change the enable of the parameter display and/or write a [comment](#) for the selected operand.

► If required edit the display text in front of and behind the variable or the text for display lines 1 and 4 using the Text Entry button. See also: [Creating texts](#) for a text display function relay).

Note: If you wish to display texts and variables in combination on lines 2 and 3, you can enter any character as placeholders from column 5 for the variable places required in order to prevent overlaps. These 4 or 8 characters are overwritten by the variables in the display.

The places that are assigned to variables will be represented in the Display preview area with a string of ##... characters.

Back to [Activating a text display function relay](#).

OP

In the OP area select the operand (variable) that you only wish to have displayed or have modified by the operator. The following actual values can be displayed:

- I C - Counter relay,
- I DH - Time (Display Hour),
- I I - Variable value of an analog input
- I O - Operating hours counter
- I T - Timing relay and
- I DD - Date (Display Date)

The following setpoints can also be modified taking into account the necessary requirements stated below:

- I C - Counter relay,
- I T - Timing relay

No.

In the No. field select the number of the connected operand or function relay providing the variable values you wish to have displayed.

Actual value/setpoint

You can determine in the Actual value/Setpoint area which value of a function relay is to be displayed. If you select a function relay Setpoint here, the editable option will become available.

As long as you have activated a setpoint and the Editable option, the operator can change a defined setpoint during operation via the buttons the control relay.

Editable option

Select the Editable option if you wish to allow the operator to make setpoint alterations during operation.

Value range for IA..

► Click the Scale Value Range button for configured I operands.

This will open the Scale Value Ranges of Analog Inputs dialog with the lines 1 - 4. In these four lines you can set the output format parameters of one analog input for each text line. The output format is defined by the display and range parameters that you enter.

Scaling the value range of the analog inputs

Display:

This is where you can define the output format of the analog value. The actual analog value must always be between 0 and 10 V.

When defining the display range, first of all set whether you require an unsigned output (0 to 9999) or a signed output. With a signed output you can also define whether this is to be displayed as an integer (± 999) or in fixed decimal format (± 9.9). This last format is useful if the analog value only varies within a small range.

Range:

It is also possible to scale the display value. This involves assigning a scaling range to the range selected in Display (Display Range).

This scaling range is defined by setting values From and To. In this way you define minimum and maximum values for the output (see table "Scaling the Analog Input Values"). The display value is converted according to ratio of the Display/Scaling range.

► Confirm your entries by clicking the OK button.

At the end of the line your entries are confirmed by the display of From: To:

The value ranges (0 to 10 V) of the analog inputs I7, I8 (EASY500) or I7, I8, I11 and I12 (EASY700) can be displayed in the following way:

| Analog value | Display: | Range: From To | Example: From To |
|------------------|-----------|------------------------|--------------------------|
| always 0 to 10 V | ± 9.9 | -9.9 9.9 | -1 4 |
| | | or 9.9 -9.9 | 4 -1 |
| | ± 999 | -999 999 | -10 40 |
| | | or 999 -999 | 40 -10 |
| | 0 to 9999 | 0 9999 | 0 5000 |
| | | or 9999 0 | 5000 0 |

Table: Scaling the analog input values

Example parameter definition - Analog input IA, scale value range

Task:

The analog value to be observed varies between 2 V and 7 V.

A temperature value of -25° is to be output for an analog value of 2 V and $+55^\circ$ for 7 V.

Solution:

Format: ± 999

Range: from $-37 \dots +73$

The following table shows the relationship between the analog value and the entries made at From and To, i.e. the assignment of the scaling range.

| Analog value | Range: From ... To |
|--------------|--------------------|
| 10 V | + 73 |
| | |
| 7 V | + 55 |
| | |
| 2 V | - 25 |

| | |
|-------|-------|
| | |
| 0 V | - 37 |

Table: Relationship between analog value and scaling range

Circuit diagram elements and parameters

| | Description | Note |
|---|---|-------------|
| Contact | | |
| Dxx | 1 if the corresponding text function block is active. | |
| Coil function | | Designation |
| Enable - Possible with the functions: contactor, impulse relay, set, negated contactor, falling edge and rising edge; | Function as Enable coil: The control relay will display the text if the function relay detects a switch condition that corresponds to the selected enable function. Example of an enable via the contactor functions: A text is displayed for as long as a 1 signal is present at the coil. The text display is removed if the switch condition is no longer fulfilled. | Dxx |
| Set | If you have selected Set as enable function, the text display will only be removed if an edge is triggered at the Reset coil. | SDxx |
| Reset - | Function as Reset coil: When a 1 signal is present, the text display is hidden and the appropriate switch contact is reset. After the text display is hidden, the Status display is shown in the display of the control relay once more. | RDxx |
| Parameter display | | |
| - | - | |
| Simulation | | |
| Possible | | |
| | | |

Retention

In Project View, select in the [System](#) tab whether the status of the text display contacts D01 - D08 are to be kept retentive. This status value is retained when the operating mode is changed from RUN to STOP and when the power supply is switched off. When the control relay is restarted in RUN mode, the program starts with the retentively stored status value.

Tip: Refer to the EASY500/700 manual (AWB 2528-1508x) for more information on the function block (e.g. signal diagram).