



COMPACT DISPLAY

for

Displaying Velocity or any analog sensor signal

USER MANUAL

NOTES:

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Safety Instructions

Please read carefully before operating the equipment.

CORRSYS-DATRON is not responsible for damage that may occur when this device is used in any way other than that for which it is intended.

To assure safe and proper operation, all supplied equipment, components and/or accessories must be carefully transported and stored, as well as professionally installed and operated. Careful maintenance and usage in full accordance with operating instructions is imperative.

CORRSYS-DATRON equipment should be installed and operated only by qualified persons who are familiar with devices of this type.

- Use the device only for intended applications. Improper application is not advised.
- Do not modify or change the device or its accessories in any way.
- Improper use or mounting of the device may affect the safety of the vehicle and/or occupants.
- The device must not be mounted and/or operated in any way that may compromise vehicle or and/or occupant safety.
- Device must be mounted firmly and securely.
- Use only original device, components and/or accessories included in the scope of delivery.
- Do not mount device, components and/or accessories near heat sources (e.g. exhaust).
- Do not use defective or damaged device, components and/or accessories .
- Always note correct pin assignments and operating voltages when connecting device to power supplies, data acquisition/evaluation systems, and/or any other applicable system or component. Device may be damaged if not properly connected and/or operated.
- For additional information, please call the CORRSYS-DATRON Hotline: ++49 (6441) 9282-82 or email: hotline@corrsys-datron.com.



Warning

- The front side of the display should be cleaned by a soft, moistened cloth only. Please do not use solvents or detergents!
- The display may be damaged if power is applied for extended periods, especially in hot environmental conditions.



- Disconnect power from the display if the vehicle is stationary for extended periods.



1. Overview



COMPACT DISPLAY

*for
displaying velocity*

Art. No.:
Compact Display 11370

Analog Display for simple evaluation of analog measuring data. The measuring range for the input signal is -10V up to +10 V, as well as 0 mA up to 20 mA. Several different given parameters are available for selecting the necessary measuring range. The display consists of 7 segments and can be adjusted freely from 0 to 4 decimals.

For simple programming of display only the area of the input signal, the selection of the decimal point, characteristic line, and net filter have to be adjusted and the system can be operated.

Features

- easy to read 7 segment display
- easy operation
- universal application
- power supply 10 ... 30 V DC
- reverse-polarity protection

2. Extent of delivery

Standard delivery

1. (1) 11202 Compact display
2. (1) 10397 Power cable
3. (1) 10029 Suction holder with ball joint
4. (1) 11666 Hexagon bolt M6 x 7

3. Technical Data

Specifications

| | |
|---------------------------|--|
| Supply: | |
| Voltage supply: | DC 10 ... 30 Volts |
| Power consumption: | max. 2 Watts |
| Measuring- range: | |
| Power input: | reverse battery protected |
| Range: | 0 ... 20 mA, 4 ... 20 mA |
| Resolution (14 Bit): | 2 μ A |
| Max. input current: | 50 mA |
| Input-resistance: | < 100 Ω |
| Voltage input: | |
| Range: | 0 ... 10 V, 2 ... 10 V, -10 ... + 10 V |
| Resolution (14 Bit): | 1 mV |
| Max. input voltage: | \pm 30 V |
| Input resistance: | > 2 M Ω |
| Measuring speed: | approx. 2 measurements/s |
| Linearity: | < 0.1 % \pm 1 Digit |
| Nullification: | automatic |
| General Information: | |
| Measurements (W x H x D): | 110 mm x 57 mm x 125 mm |
| Weight: | approx. 300 g (without suction base) |
| Indication 7-Segment: | 5-point LED, 14.2 mm high |
| Indication range: | -19999 ... 99999 |
| Datasecurity EEPROM: | 1 Mio. Storage cycles or 10 years |
| EMV-firmness: | EN 61000-3-3; EN 55011 class B and EN 50082-2 with shielded control lines |
| Operating temperature: | -20 $^{\circ}$ C ... +65 $^{\circ}$ C |
| Storage temperature: | -40 $^{\circ}$ C ... +85 $^{\circ}$ C |
| Protective system: | IP 20 |

4. Programming the Compact Display

Set system into programing mode:

- Push red and grey buttons.
- Connect system with power supply.
- Display will indicate "ProG".
- Release buttons.

Select area for input-signal:

Following appears

| Menu | Selection | Range |
|-------|-----------|---------------|
| RanGE | 0...10U | 0 ... 10 V |
| | 2...10U | 2 ... 10 V |
| | -10.10U | -10 ... +10 V |
| | 0.20 mA | 0 ... 20 mA |
| | 4.20 mA | 4 ... 20 mA |

- Change selection with grey button
- Store setting by pushing red and grey buttons simultaneously
- When used as speed display with CORRSYS-DATRON Sensors, the range of 0 ... 10 V shall be selected.

Adjustment of Decimal point:

Display:

| Menu | Selection | Possibilities | Indication range |
|------|-----------|----------------|--------------------|
| DP | 0 | no decimals | -19999 ... 99999 |
| | 0.0 | one decimal | -1999.9 ... 9999.9 |
| | 0.00 | two decimals | -199.99 ... 999.99 |
| | 0.000 | three decimals | -19.999 ... 99.999 |
| | 0.0000 | four decimals | -1.9999 ... 9.9999 |

- Change selection with grey button.
- Store setting by pushing red and grey simultaneously.
- Two decimal points shall be adjusted for CORRSYS-DATRON Sensors.
- Setting of the decimals will not interfere with the measurement!
- The maximum respectively the minimum indication value must be within the measuring range, otherwise programming cannot be continued.
- After setting is done, any leading zero will be suppressed.

Change of characteristic line:

Display:

| Menu | Selection | Comments |
|--------|-----------|--|
| ChAr.C | no | use already selected characteristic line |
| | YES | input/change characteristic line |

- Change selection with use of grey button.
- Store setting by pushing red and grey simultaneously.

Parameterization of indicating characteristic line:

At least two support points (two value pairs) are necessary for beginning and ending of characteristic line. The characteristic line can be ascending or descending.

Up to 24 support points can be realized maximally. It has to be taken into consideration that during ascending characteristic line all characteristic line elements will indicate an ascending process, respectively that during descending of characteristic line all characteristic line elements will indicate a descending process.

The characteristic line has to be within the indicated characteristic line zone, which means within the range of input and indication. The first and last support point can be on the borders.

It is recommended to take notes of the desired value pairs of the support points for the characteristic line before starting the parameterization.

When using CORRSYS-DATRON Sensors, which have a standard outlet of 25mV/km/h, e.g. following value pairs will be indicated:

- 0 V 0 km/h
- 2,5 V 100 km/h

When using different output voltages other values will be determined for the maximum voltage (please see instructions for respective sensors)

Input Amount of Support Points:

| | | |
|----------|-------------|------------------|
| Display: | Menu | Selection |
| | No.Pnt | 02 |

- When pushing the grey button the value will be increased by 1. After reaching 24 the display will change back to 2.
- Transfer by pushing red and grey simultaneously

Input of first support point:

Either the offered values for the first support point will be taken over or own values will be adjusted.

Adjust input value for beginning of characteristic line:

| | | | |
|----------|-------------|------------------|---------------------------------|
| Display: | Menu | Selection | Comments |
| | InP.01 | 00.000 | push grey button, changing mode |

- The grey button increases by 1, while the red button moves the indication point.
- Transfer by pushing red and grey simultaneously.

Adjust display value for the beginning of characteristic line:

| | | |
|----------|-------------|------------------|
| Display: | Menu | Selection |
| | DiS.01 | 000.00 |

- Transfer by pushing red and grey simultaneously

Input of second support point:

Adjust input value:

| | | |
|----------|-------------|------------------|
| Display: | Menu | Selection |
| | InP.02 | 10.000 |

Adjustment of indication value:

| | | |
|----------|-------------|------------------|
| Display: | Menu | Selection |
| | DiS.02 | 010.00 |

- The grey button increases by 1, while the red button moves the indication point by 1.
- Transfer while pushing red and grey simultaneously.

Control parameter:

Occuring extreme values can be recognized, stored and also during operation be requested from storage by pushing a button.

Control of maximum value:

| | | | |
|----------|-------------|------------------|---|
| Display: | Menu | Selection | Comments |
| | MAX | no | no control |
| | | YES | maximum value will be controlled and stored |

- Change of indication through grey button.
- Transfer by pushing red and grey simultaneously

Definition of resetable maximum value:

| | | | |
|----------|-------------|------------------|---------------------------------|
| Display: | Menu | Selection | Comments |
| | rMAX | no | maximum value cannot be reset |
| | | YES | resetable by pushing red button |

- Change of indication through grey button
- Transfer by pushing red and grey simultaneously

Control of minimal value:

| | | | |
|----------|-------------|------------------|---|
| Display: | Menu | Selection | Comments |
| | Min | no | no control. |
| | | YES | minimal value will be controlled and stored |

- Change of selection through grey button.
- Transfer by pushing red and grey simultaneously.

Definition of resetable maximum value:

| Display: | Menu | Selection | Comments |
|----------|------|-----------|--|
| | rMin | no YES | minimal value cannot be reset resetable by pushing red button |

- Change of selection through grey button.
- Transfer by pushing red and grey simultaneously.

Net filter:

To decrease net-malfunions the system must be set to the local net frequency.

| Display: | Menu | Selection | Comments |
|----------|-------|-----------|--|
| | FiltE | 50 HZ | 50Hz: local net with 50 Hz 60Hz: local net with 60 Hz |

- Change of selection through grey button.
- Transfer by pushing red and grey simultaneously.

Ending programming yes/no:

| Display: | Menu | Selection | Comments |
|----------|-------|-----------|--|
| | EndPr | YES no | Parameters will be transferred Control/change of Parameterization |

- Change of selection through grey button.
- Transfer by pushing red and grey simultaneously.

Control/Change of Parameterization:

Control of individual menus:

After each 2 s menu will switch for selection.

If adjustments are according to necessary requirements the next menu can be established by the combination red and grey button, otherwise adjustments have to be repeated.

Operation:

After switching-on or switching-off of the parameterization the system will switch to operating condition. Different conditions can then be indicated on the display:

----- No measuring signal has been connected or measuring range has been exceeded.

326.81 The measuring signal is indicated and the measuring value will be displayed.

Lo.InP The input signal is smaller than the lower measuring range border. This indication will switch with the display of the measuring value.

Hi.InP The input signal is higher than the upper measuring range border. Also the indication will switch with the display of the measuring value.

Switching of the indication during operation:

The continuous switching of the display can only be performed while the message will be displayed

| grey button | Message (for 2 s) | Display (after 2 s) |
|-------------|-------------------|--------------------------------|
| push once | Act | actual measuring value |
| push once | Min | minimal value (when activated) |
| push once | MAX | maximum value (when activated) |
| push once | Act | actual measuring value |

Resetting of stored values:

Resetting of stored values is only possible when this function was activated.

- By indicating minimal -or maximal value.
- By pushing red button stored values will be deleted.

Suggestion: During transfer of selected parameters red and grey buttons have to be pushed simultaneously. First push the red button then the grey button. This way no parameters will be reset unintentionally..