CONTA-ELECTRONICS
Isolated Signal converter

CONTACLIP

CMS-F-UI

Electrical specifications

Order information	
type	CMS-F-UI
cat.no	15886.2

Input data	
range (select via dipswitches)	0-0,1Hz to 0-10kHz (see table)
max. input signal	30V
input resistance	> 10 kOhm
sensor	PNP/NPN, NAMUR initiator, push-pull
resolution	0,1mHz resp. 5 ppm from measured value

Output data	
output signal (select via dipswitch)	0-5V / 0-10V / 0-20mA / 4-20mA
max. output signal (U / I)	< 15V / < 30mA
load resistance (U / I)	> 1k Ohm / < 600 Ohm
offset (U / I)	< 10mV / < 20uA
response time	350ms + two times the period of the input frequency

General data	
module power supply	24V DC ±25%
module current	Approx. 50mA
conversion error	< 0,2%
temperature coefficient	< 0,02 %/°C
CE marking	Low Voltage Directive (LVD) 2006/95/EC, according requirements of EN 61010 EMC Directive 2004/108/EC, according requirements of EN 55011 and EN 61326-1
isolation voltage input / power	1kV, 50Hz, 1min.
isolation voltage input / output	1kV, 50Hz, 1min.
isolation voltage output / power	1kV, 50Hz, 1min.
operating / storage temperature	0°C...+55°C / -20°C...+70°C
conductor cross section	0,2 - 2,5 mm²
connection system	screw clamp connection, pluggable
insulation stripping length	7 mm
mounting / installation position	DIN-rail TS35 / any
module size LxWxH (TS35)	17,5 x 99 x 114,5mm
weight	120 gr

Cms-f-ui manual rev0.fl.doc

Manual

The CMS-F-UI is a multi-functional 3-way isolated signal converter. This module is used for electrical isolation and conversion of frequency to analog signals.
The 3-way isolation enables the module to be used locally as well as in the vicinity of the controlling system.
The inputs and outputs of the converter are configured by means of dipswitches.
Any combination of input and output can be chosen, so numerous different signal conversions can be set.
Default input/output setting is 0..1,0kHz / 0..10V.
Other default input/output settings on request.

Features:

• Multifunctional frequency input (selectable from 0...0,1Hz to 0...10kHz)

• Multifunctional analog output (0..5V, 0..10V, 0..20mA, 4..20mA).

• Frequency input and analog signal output range selectable via DIP switches

• 3-Way galvanic isolation

• Power supply 24V DC

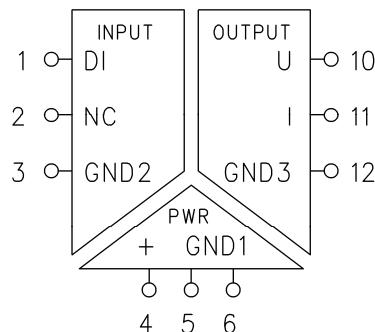• Other analog signal ranges on request

Configuration

To open the module press the locking levers under the terminals with a screwdriver.

The module is configured by setting the dip-switches according to this manual and the table on the side of the module.

Connecting the module

The pin configuration for I/O and power connection is shown on the top of the module.

Connection diagram

Dipswitch settings

	Dipswitch 1							
Frequency setting A	1	2	3	4	5	6	7	8
0	X	X	X	OFF	OFF	OFF	OFF	X
1	X	X	X	ON	OFF	OFF	OFF	X
2	X	X	X	OFF	ON	OFF	OFF	X
3	X	X	X	ON	ON	OFF	OFF	X
4	X	X	X	OFF	OFF	ON	OFF	X
5	X	X	X	ON	OFF	ON	OFF	X
6	X	X	X	OFF	ON	ON	OFF	X
7	X	X	X	ON	ON	ON	OFF	X
8	X	X	X	OFF	OFF	OFF	ON	X
9	X	X	X	ON	OFF	OFF	ON	X
10	X	X	X	OFF	ON	OFF	ON	X

X = Don't Care

	Dipswitch 2			
Frequency setting B	1	2	3	4
0	OFF	OFF	OFF	OFF
0,1	ON	OFF	OFF	OFF
0,2	OFF	ON	OFF	OFF
0,3	ON	ON	OFF	OFF
0,4	OFF	OFF	ON	OFF
0,5	ON	OFF	ON	OFF
0,6	OFF	ON	ON	OFF
0,7	ON	ON	ON	OFF
0,8	OFF	OFF	OFF	ON
0,9	ON	OFF	OFF	ON

	Dipswitch 2	
Frequency setting C	5	6
x1	OFF	OFF
x10	ON	OFF
x100	OFF	ON
x1000	ON	ON

	Dipswitch 2	
Output signal range	7	8
0...10V	OFF	OFF
0...5V	ON	OFF
0...20mA	OFF	ON
4...20mA	ON	ON

Formula setting frequency range: f = (A+B)xC
Example: A=1 + B=0,5 x C=10 => frequency range = 0...15Hz. (fmax = 10kHz)