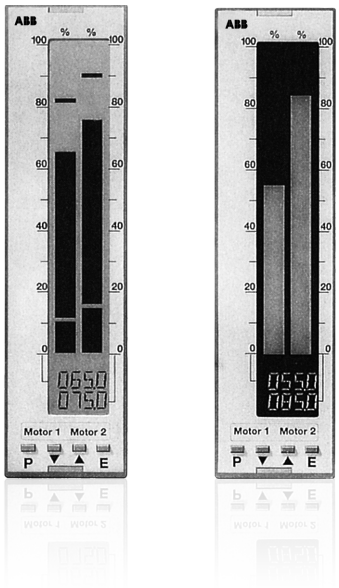
Data Sheet 10/30-2.16-EN

Indicomp 4
Bargraph Indicator



Display is optionally

— LCD active: self-luminuous green on black
— self-luminuous green on blue
— LCD passive: self-luminuous black on light grey

2 input channels

— Direct current, direct voltage
— Thermocouple
— Resistance thermometer

Arbitrary characteristics

Maximum 4 alarm values

Fully configurable via keys or PC

Modular design

Dimensions

— 36 mm x 144 mm

Power and productivity
for a better world™

Technical data

Display section

Technology (optional)
active: LCD, self-luminous green on black
or
passive: LCD, self-luminous black on light grey

Analog display
2 bars each with 101 segments; 93 mm long

Numerical display
4-digit; 12 segments; 10 mm high
Range: -9999...0...(+)9999 digits

Measurement section

Measurement deviation (at 23 °C ± 2 °C)
at mV, V, mA: < ± 0.1 % of measured value ± 0.025 % of upper-range value ±1 digit
additionally with internal reference junction: ± 2 °C

Interference immunity
CMR: > 120 DB for DC
> 100 dB for 50/60 Hz
SMR: > 60 dB for 50/60 Hz
(≤ 1/10 of the upper-range value)

Permissible common-mode voltage
Circuit/circuit: isolating voltage (rms) ≤ 3 V
Measuring circuit/
protective conductor: isolating voltage ≤ 25 V

Scanning rate:
Approx. 3/s per channel; measurement time: 100 ms

Mean value calculation
Can be parameterized (via 1...32 measurements)

Measuring ranges

DC Inputs

Direct current
-24...0...+24 mA; R_i = 100 Ω
Overload rating: 100 mA continuously

Direct voltage
-12...0...+12 V; R_i = > 100 kΩ
Overload rating: 50 V continuously

Any lower-range and upper-range values can be selected within the limits.

Sensor Inputs

Direct voltage
75...0...+75 mV; R_i = > 100 kΩ
Overload rating: 50 V continuously

Thermocouple (TC)

Type	Range limits	Max. deviation
J	-200...+ 800 °C	± 0.13 % of upper-range value
K	-100...+1300 °C	± 0.16 % of upper-range value
S	0...+1750 °C	± 0.2 % of upper-range value
R	0...+1750 °C	± 0.2 % of upper-range value
B	+400...+1800 °C	± 0.2 % of upper-range value
T	+100...+ 400 °C	± 0.16 % of upper-range value
E	0...+ 800 °C	± 0.13 % of upper-range value
N	-100...+1300 °C	± 0.15 % of upper-range value

Temperature coeffizient: < 0.1 %/10 K in the range 0...50 °C

Resistance thermometer (RTD)

Type	Range limits	Deviation
Pt 100 IEC	-200...+800 °C	± 0.15 % of upper-range value
Ni 100 DIN	-60...+180 °C	± 0.22 % of upper-range value

Temperature coeffizient: < 0.1 %/10 K in the range 0...50 °C

2, 3 or 4-wire connection (can be parameterized) with or without break monitoring (can be parameterized) Display in °C or °F (can be parameterized)

Any lower-range and upper-range values can be selected within the limits.

The resolution of the numerical display for spans within the range ± 999.9 digits is 0.1 °C.

Alarm value section

Number of alarm values
4, freely assignable to the input channels

Alarm value setting
Internally: via keys
Externally: with 0...20 mA or 0...10 V without electrical isolation

Switching function
Separate MIN or MAX, can be parameterized

Hysteresis
Can be parameterized jointly in the range 0...20 %

Response time
Can be parameterized jointly in the range 0...20 s

Switching action
Can be parameterized jointly, NO or NC contact operation

Output

Relay output
4 floating changeover contacts

Operating values
18 V/10 mA DC min.; 250 V/1 A AC max.

Transistor output
4-fold electrical isolation by means of opto-electronic couplers. Compatible for switch amplifier to DIN 19234

Operating values 30 V/40 mA

Interface

RS 232 C
Accessible on the front after removal of the display

RS 485
Routed on the rear to terminals

Power supply

24 V universal current (UC)
AC -15 %...+10 %; DC ± 25 %
0/48...62 Hz, 10 W/15 VA

115/230 V alternating voltage (AC)
-20 %, + 10 %, 48...62 Hz, 10 W/16 VA

External fuse protection (acc. to DIN 41662):
T 0.8 A at 24 V AC/DC (UC) / T 0.25 A at 115/230 V AC

Technical data

General and safety data

Environmental capabilities

Ambient temperature
0...50 °C

Transportation and storage temperature
-25...65 °C

Relative humidity
up to 95 %, no condensation

Corresponds to climatic class KWF to DIN 40040
Climatic class 3K3 to DIN IEC 721 Part 3-3

Application field: industrial gas environments

Electromagnetic compatibility (EMC)

Immunity
Tested to IEC 801, DIN VDE 0843 inter alia
Protection objectives of the EMC guideline 89/336 EEC are fulfilled basic standard: prEN 50082 Part 2, August 1992

The standard requirements of the NAMUR recommendations NE21 Teil 1, May 1993 are fulfilled.

Radio interference suppression
Alarm value class B based on Postal Service Ordinance VfG 243/1991

Mechanical features

Tested to DIN IEC 68-2-27 and 68-2-26
Shocks 30 g/11 ms, vibration 2 g/5...150 Hz

General and safety data

Protection class I with protective conductor connection

Connection
Plug-in screw terminals
for conductors up to 1.5 mm^2 (signal/control inputs)
for conductors up to 2.5 mm^2
(power supply/signal outputs)

Degree of protection acc. to DIN 40050; IEC 529
IP 50 Front panel
IP 20 Terminals

Colour

Bezel	Front film
Grey RAL 7032	Grey RAL 7032
Grey RAL 7037	Grey RAL 7032

Mounting
In a panel with screw clamps
Close-packed, side by side mounting permitted

Weight
Approx. 1.4 kg

Basic delivery
1 Indicomp 4
1 Operating Manual 42/30-26 EN

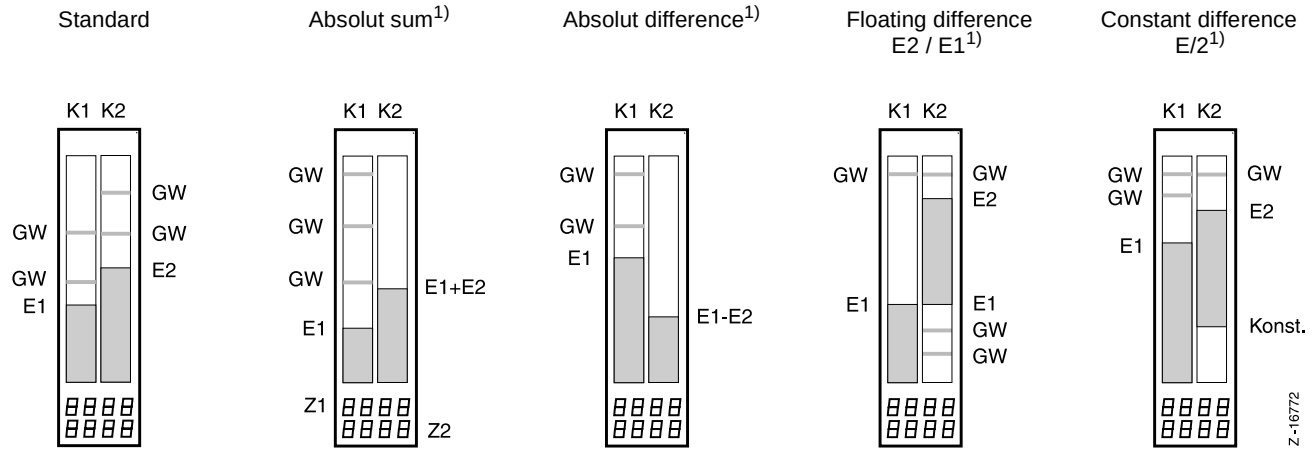
Parameter definition

Parameters can be defined for the following functions (via keys or via interface):

- **Input**
  Input variable
  Measuring range (start and end)
  Scaling (linear or any)
  Supplementary functions
- **Alarm values**
  Assignment to the inputs
  Function (MIN; MAX)
  Activation (internal/external)
  Operating principle (operating/quiescent current)
  Hysteresis, response time
- **Display**
  Bar beginning (bottom, top, center)
  Display on channel 2
  (normal, sum, difference)
- **Password**
  Interlock of parameter definition
- **Linearization**
  In the dialog with level measurement (only via keys)
- **Instrument alignment**
  Supported by software (only via keys)

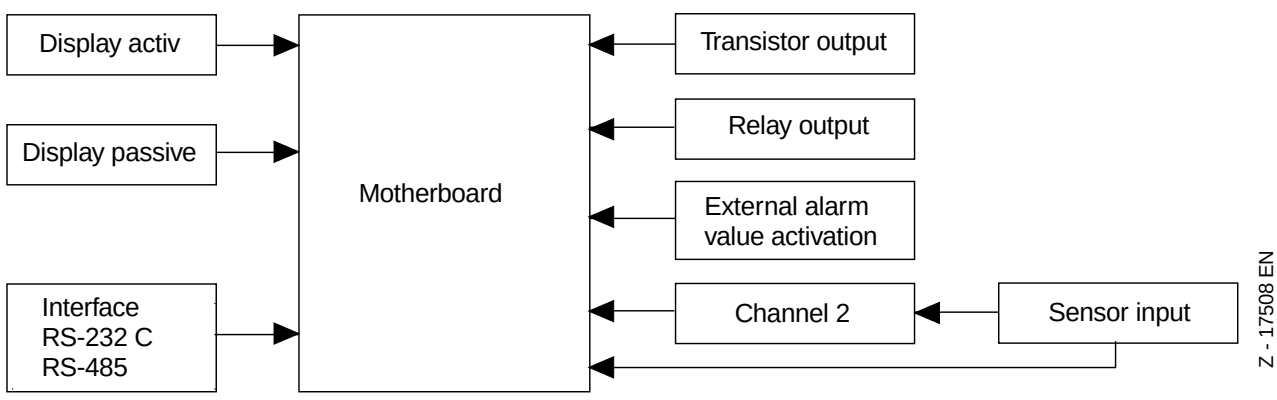
Technical data

Measured value and alarm value display



Z1	Numerical display channel 1	E1	Input 2	K1	Channel 1	1)	Special display on channel 2
Z2	Numerical display channel 2	E2	Input 2	K2	Channel 2		
GW	Alarm values (max. 4 values)						

Functions available as plug-in modules



Ordering informations												
	Catalog No								Code			
Bargraph Indicator Indicomp 4	**V30615A-**											
Display version												
passive: no illumination		1										
active: with illumination (black background)		2										
with illumination (blue background)		3										
Input channels												
single-channel			1									
two channels			2									
Input signals[5]												
DC (mA, V) supplement measuring range(s) with Code Nos.				1								
DC (mA, V) + sensor inputs (mV, TC, RTD) provide measuring range(s) with Code Nos.				2								
Alarm values (4 values)												
none					0							
Relay output internal activation					1							
Relay output external activation (see Code No. 61)					2							
Transistor output internal activation					3							
Transistor output external activation (see Code No. 61)					4							
Interface												
none						0						
Serial interfaces RS 232 and RS 485						1						
Power supply												
115/230 V alternating voltage (AC)							1					
24 V alternating/direct voltage (UC)							2					
Bezel												
grey (RAL 7032)								1				
grey (RAL 7037)								2				

[5] with no specification, default setting 20 mA, scale 0...100 %, figures 0...100,0

Supplementary ordering information						
			Code			
Input 1 (E1)						
Measuring range[1]	mA	(clear text)	310			
	mV	(clear text)	311			
	V	(clear text)	312			
	Thermocouple[2]	(clear text)	320			
	Resistance thermometer[2]	(clear text)	330			
with thermocouple (TC)						
	internal reference junction		321			
	external reference junction	(clear text)	322			
with resistance thermometers (RTD)						
	2-wire circuit		332			
	3-wire circuit		333			
	4-wire circuit		334			
numerical display for DC measuring ranges[3]		(clear text)	340			
Scale	according to standard series[4]	(clear text)	350			
	according to specification[4]	(clear text)	351			
	0...100 %		352			
Input 2 (E2)[5]						
Measuring range[1]	mA	(clear text)	410			
	mV	(clear text)	411			
	V	(clear text)	412			
	Thermocouple[2]	(clear text)	420			
	Resistance thermometer[2]	(clear text)	430			
with thermocouple (TC)						
	internal reference junction		421			
	external reference junction	(clear text)	422			
with resistance thermometers (RTD)						
	2-wire circuit		432			
	3-wire circuit		433			
	4-wire circuit		434			
numerical display for DC measuring ranges[3]		(clear text)	440			
Scale	according to standard series[4]	(clear text)	450			
	according to specification[4]	(clear text)	451			
	0...100 %		452			
special display on channel 2 (standard: value for input 2)						
Sum	E1 + E2		510			
Difference	E1 - E2		511			
Difference	E2/E1 floating		512			
Difference	E2/constant		513			
Value for constant (specification as percentage; standard: 50 %)		(clear text)	514			
external alarm value setting						
0...20 mA			610			
0...10 V			612			
Inscription						
3 mm	character height (max. 14 characters)	(clear text)	710			
2,5 mm	character height (max. 17 characters)	(clear text)	712			
2 mm	character height (max. 22 characters)	(clear text)	714			
Operating Manual[5]						
	German		Z1D			
	English		Z1E			
	French		Z1F			

[1] observe measuring range alarm values
[2] specify sensor type, temperature range (lower-range and upper-range values and decimal point position) and dsplay (°C or °F)
[3] specify lower-range and upper-range values and decimal point position
[4] specify lower-range and upper-range values and dimension
[5] with no specification, default setting 20 mA; scale 0...100 %; figures 0...100,0
[6] 1 copy in German included in the basic supply; no specification required; extra Operating Manuals must be paid (please specify number)

Ordering information accessories					
	Catalog No.	Code			
Software Indicomp 4 Configuration program diskette 3,5"	30695-3100395				
diskette 5,25"	30695-3100396				
Connecting cable for RS 232 with 9-pin Sub-D socket connector (2 m long)	30804-0761781				
Mounting frame for Mauell grid (144 mm x 48 mm)	30604-0783518				
Fastening element for Siemens grid	30604-0783504				

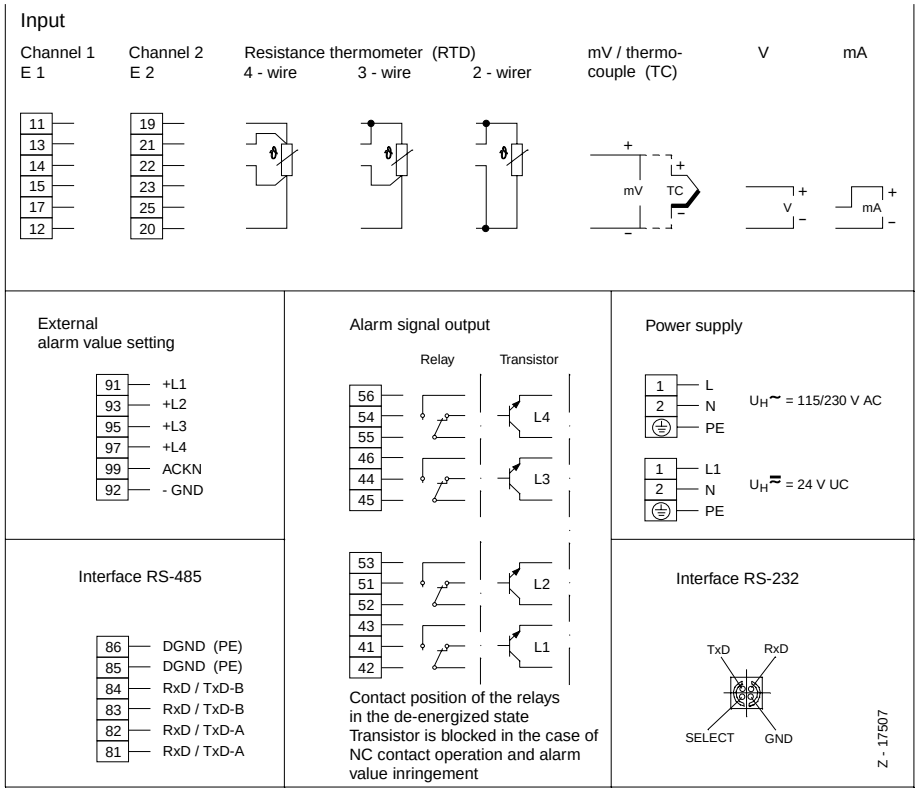
Ordering information spare parts					
Display module passive, complete; RAL 7032 (no front film)	30604-0761976				
Display module passive, complete; RAL 7037 (no front film)	30604-0761977				
Display module active, with illumination module complete RAL 7032 (no front film)	30604-0761979				
Display module active, with illumination module complete RAL 7037 (no front film)	30604-0761980				
Illumination module, separate, for active display	30604-0761950				
2nd input channel module (no sensor input)	30604-0761927				
Sensor input module (thermocouples, resistance thermometer)	30604-0761975				
Relay output module (4 modules)	30604-0761929				
Transistor output module (4 modules)	30604-0761928				
External alarm value setting module, 20 mA	30604-0761974				
External alarm value setting module, 10 V	30604-0761973				
Interface module RS 232 / RS 485	30604-0761958				
Front film for display module passive	30604-0780083				
Front film for display module active (green on black)	30604-0780084				
for display module active (green on blue)	30604-0780095				
with scaling for channel 1 acc. to standard series[1)]	(clear text)	350			
with scaling for channel 1 acc. to specification[1)]	(clear text)	351			
with scaling for channel 1 0...100 %		352			
with scaling for channel 2 acc. to standard series[1)]	(clear text)	450			
with scaling for channel 2 acc. to specification[1)]	(clear text)	451			
with scaling for channel 2 0...100 %	(clear text)	452			
Insription plate RAL 7032, blank (5 plates)					
or in each case piece inscribed with 3 mm (14 charcters)	(clear text)	710			
or in each case piece inscribed with 2.5 mm (14 charcters)	(clear text)	712			
or in each case piece inscribed with 2 mm (14 charcters)	(clear text)	714			

[1)] specify lower-range and upper-range value and dimension

[2)] The scaling is independent of the dimension.
The right scaling (channel 2) can be affected with max. 3 figures including sign.
Figures with more digits are expressed as factor.

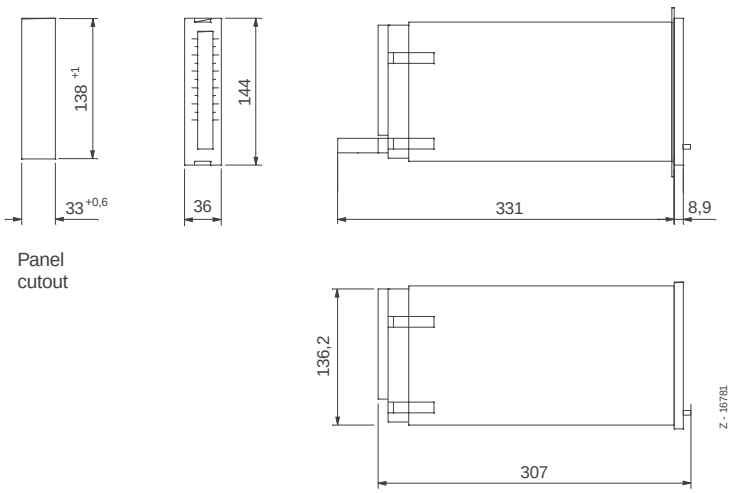
Standard series for scaling[2)]		
0...10	200...300	-50...0...+50
0...50	300...600	-100...0...+100
0...100	400...500	-30...+150
0...200	400...800	-10...+40
0...250	800...1300	
0...400	900...1200	
0...600	1000...1600	
0...900	1000...1750	
0...1000	1400...1800	
0...1200		
0...2500		
0...4000		

Connection diagram



Dimensional drawing

(dimensions in mm)



Contact us

ABB Ltd.
Process Automation
Howard Road, St. Neots
Cambridgeshire, PE19 8EU
UK
Phone: +44 (0)1480 475321
Fax: +44 (0)1480 217948

ABB Inc.
Process Automation
125 E. County Line Road
Warminster PA 18974
USA
Phone: +1 215 674 6000
Fax: +1 215 674 7183

ABB Automation Products GmbH
Process Automation
Borsigstr. 2
63755 Alzenau
Germany
Phone: +49 551 905-534
Fax: +49 551 905-555

www.abb.com

Note
We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB.

Copyright© 2011 ABB
All rights reserved

3KXJ200001R1001

10/30-2.16-EN 01.2011

Power and productivity
for a better world™