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DEUTA Indicating Units



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Safety technology

Obsolescence management

Economic efficiency

Modular concept

Longevity

» DEUTA indicating units-
our modular system...

for your individual requests«

DEUTA indicating units - reliable and flexible

By choosing components of high quality, the indicating units fulfil the highest demands towards reliability, maintainability, safety and longevity. They can be configured in varied ways as to colour design and variability of input variables.

So you will be on the safe side!



»DEUTA indicator units -

Product highlights at a glance!«

- **Holistic:** Deuta controls the entire process chain for your individual indicating units.
- **Flexible:** Three technologies for indicating units: Stepper motor, moving coil instrument, digital indicator
- **Safe:** SIL 2-capable solutions
- **Compatible:** Form-fit-function
- **Rugged:** Regarding extreme environmental conditions
- **High:** The MTBF values



Forward-looking technology

- **Everything from one source**
Consultation, development, layout and selection of components, fitting, testing and production: DEUTA controls the entire process chain from production to qualification and worldwide support.
- **Platform concept**
Three platforms, many possibilities for individualisation. With just a few components and plug connections, we have indicating units compatible in terms of installation and function available at any time.
- **Safety technology**
DEUTA indicating units offer SIL 2-capable solutions. That is what makes DEUTA the leader in safety technology for indicating units.

- **Longevity**
High-quality components and processes lead to high MTBF values and low life-cycle costs.
- **Obsolescence management**
Follow-up concepts are already considered during the design phase. This ensures the availability of the indicating units across the entire life cycle. New indicating units are compatible to the predecessors in form, fitting accuracy and function.



»DEUTA analogue panel meters -

ENG indicating units - a round affair for more safety!«

- Controlled either with voltage, currents or PWM signal
- Device versions available either with LED lighting or lamp bulb



Flexible control

The round indicating units **ENG 6** to **ENG 13** can be controlled either with voltages (AC, DC), currents (DC) or a PWM signal. Devices with current input can also be controlled with 4-20 mA.

Choice

Indicating units with 4...20 mA current input each have a "mechanical" and an "electrical" zero point (life zero). They are available either with flat connectors or D-Sub.



ENG 6



ENG 8/9



ENG 10/9



ENG 13/9

Feature/Specification	ENG 6	ENG 8/9	ENG 10/9	ENG 13/9
Panel cutout	ENG 6: $\varnothing 61^{+0.5}$ mm	ENG 8/9: $\varnothing 81^{+0.5}$ mm	ENG 10/9: $\varnothing 101^{+0.5}$ mm	ENG 13/9: $\varnothing 131^{+0.5}$ mm
Installation depth	ENG 6: approx. 80 mm	ENG 8/9: approx. 90 mm	ENG 10/9: approx. 90 mm	ENG 13/9: approx. 90 mm
Weight	ENG 6: approx. 0.3 kg	ENG 8/9: approx. 0.5 kg	ENG 10/9: approx. 0.6 kg	ENG 13/9: approx. 0.8 kg
Mounting	Clamping yoke / clamp			
Installation position	0-90-180°			
Degree of protection front face	IP53			
Degree of protection plug	IP40			
Connection	6.3 x 0.8 DIN 46244 / D-Sub			
Internal scale illumination	LED			
External scale illumination	For devices without internal lighting possible via light slits			
Input signals	AC, DC, PWM			
Data for moving coil device	e.g. 20 mA, 1.5 mA ¹⁾			
Load resistance	< 20 ohm at 20 mA meas.res.			
Pointer deflection	240°			
Accuracy class	ENG 6: 1.5 ENG 8/9, ENG 10/9, ENG 13/9: 1.5; 1 ²⁾			
Temperature range	-25°C to +70°C			
Test voltage	1,000 V _{eff} , 50 Hz, 1 min			
Vibration testing	EN61373 cat:1, class: B			
Device definition	EN60051, EN50155			
Conformity	CE			
Housing	Sheet steel			
Additional indicator	Individual versions with mileage recorder			

¹⁾ others upon request

²⁾ at extra charge

»DEUTA analogue panel meters -

EZG indicating units - with summation counter!«

- Controlled either with voltage, currents or PWM signal
- Device versions available either with LED lighting or lamp bulb



Flexible control

Models EZG 10/9 and EZG 13/9 are identical in structure and function to indicators ENG 10/9 and EZG 13/9 but incorporate an additional mechanical 7-digit summation counter.



EZG 10/9



EZG 13/9

Feature/Specification	EZG 10/9	EZG13/9
Panel cutout	EZG 10/9: $\varnothing 101^{+0.5}$ mm EZG 13/9: $\varnothing 131^{+0.5}$ mm	
Installation depth	EZG 10/9: approx. 90 mm EZG 13/9: approx. 90 mm	
Weight	EZG 10/9: approx. 0.6 kg EZG 13/9: approx. 0.8 kg	
Mounting	Clamping yoke / clamp	
Installation position	0-90-180°	
Degree of protection front face	IP53	
Degree of protection plug	IP40	
Connection	6.3 x 0.8 DIN 46244 / D-Sub	
Internal scale illumination	LED	
External scale illumination	For devices without internal lighting possible via light slits	
Input signals	AC, DC, PWM	
Data for moving coil device	e.g. 20 mA, 1.5 mA ¹⁾	
Load resistance	< 20 ohm at 20 mA meas.res.	
Pointer deflection	240°	
Accuracy class	1.5; 1 ²⁾	
Temperature range	-25°C to +70°C	
Test voltage	1,000 V _{eff} , 50 Hz, 1 min	
Vibration testing	EN61373 cat:1, class: B	
Device definition	EN60051, EN50155	
Conformity	CE	
Housing	Sheet steel	
Additional indicator	Individual versions with mileage recorder	

¹⁾ others upon request

²⁾ at extra charge

»DEUTA analogue panel meters -

EQG indicating units - square and good!«

- Controlled either with voltage, currents or PWM signal
- Device versions available either with LED lighting or lamp bulb



Durable

The EQG../9 indicating units have a square housing. They have the same features as the ENG series. A long-life LED lighting is integrated in the housings.

They are available in versions with flat connectors or with D-Sub.



EQG 9/9



EQG 14/9

Feature / Specification	EQG 9/9	EQG 14/9
Panel cutout	EQG 9/9: 92 x 92 ^{+0.8 mm}	EQG 14/9: 138 x 138 ^{+1 mm}
Installation depth	approx. 90 mm	
Weight	EQG 9/9: approx. 0.6 kg	EQG 14/9: approx. 0.8 kg
Mounting	Tensioning elements at the housing	
Installation position	0- 90-180°	
Degree of protection front face	IP53	
Degree of protection plug	IP40	
Connection	6.3 x 0.8 DIN 46244 / D-Sub	
Internal scale illumination	with LED	
External scale illumination	-	
Input signals	AC, DC, PWM	
Data for measuring device	e.g. 20 mA, 1.5 mA ¹⁾	
Load resistance	< 20 ohm at 20 mA meas.res.	
Pointer deflection	240°	
Accuracy class	1.5	
Temperature range	-25°C to +70°C	
Test voltage	1,000 V _{eff} , 50 Hz, 1 min	
Vibration testing	EN61373, cat: 1, class: B	
Device definition	EN60051, EN50155	
Conformity	CE	
Housing	Aluminium	

¹⁾ others upon request

»DEUTA analogue panel meters -

Double indicating units EGS -
independent indicating units for reference and actual values«

- Controlled either with voltage, currents or PWM signal
- Device versions available either with LED lighting or lamp bulb



Doubly safe

EGS 3/9 indicating units have two independently operating moving coil instruments whose inputs can be adapted to current, voltage (AC/DC) or PWM signals.



EGS 3/9 a



EGS 3/9 az

Feature / Specification	EGS 3/9 a	EGS 3/9 az
Panel cutout	Ø 131 ^{+0.5} mm	
Installation depth	approx. 110 mm	
Weight	approx. 1 kg	
Mounting	Clamp	
Installation position	0-90-180°	
Degree of protection front	IP53	
Degree of protection plug	IP40	
Connection	6.3 x 0.8 DIN 46224	
Internal scale illumination	2 x 2W Ba7s	
External scale illumination	through light slits	
Input signal	AC, DC	
Data for measuring device	e.g. 20 mA, 1.5 mA ¹⁾	
Load resistance	< 20 ohm at 20 mA meas.res.	
Pointer deflection	240°	
Accuracy class	1.5, 1 ²⁾	
Temperature range	-25°C to +70°C	
Test voltage	1,000 V _{eff} , 50 Hz, 1 min	
Vibration testing	EN61373, cat: 1, class: B	
Device definition	EN60051, EN50155	
Conformity	CE	
Housing	Sheet steel	
Additional indicator	EGS 3/9 az: Counter 7-digit	
Supply	EGS 3/9 az: Counter 24 V DC ± 30 %, P = 250 mW	
Input signal	EGS 3/9 az: f _{max} 12 Hz, pulse dur. min. 20ms	

¹⁾ others upon request
²⁾ at extra charge

»DEUTA analogue panel meters -

Double indicating units EGS -
independent indicating units for reference and actual values«

- Controlled either with voltage, currents or PWM signal
- Device versions available either with LED lighting or lamp bulb



Doubly safe

The indicating units have two independently operating moving coil instruments whose inputs can be adapted to current, voltage (AC/DC) or PWM signals.

Versions with current inputs of 4-20 mA make it easier to recognise malfunctions thanks to the mechanical and electrical zero point. The pointer will be below the zero position in case of errors in the current loop.



EGS 5/9

Feature / Specification	EGS 5/9
Panel cutout	Ø 101 ^{+0.5} mm
Installation depth	approx. 98 mm
Weight	approx. 1 kg
Mounting	Clamp
Installation position	0-90-180°
Degree of protection front	IP53
Degree of protection plug	IP40
Connection	6.3 x 0.8 DIN 46244
Internal scale illumination	with LED
External scale illumination	through light slits
Input signal	AC, DC, PWM
Data for moving coil device	0-20 mA, 1.5 mA ¹⁾
Load resistance	< 20 ohm at 20 mA meas.res.
Pointer deflection	240°
Accuracy class	1.5, 1 ²⁾
Temperature range	-25°C to +70°C
Test voltage	1,000 V _{eff} , 50 Hz, 1 min
Vibration testing	EN61373, cat: 1, class: B
Device definition	EN60051, EN50155
Conformity	CE
Housing	Sheet steel

¹⁾ others upon request

²⁾ at extra charge

»DEUTA analogue panel meters - Double indicating unit EGS - doubly safe«

- Controlled either with voltage, currents or PWM signal
- Device versions available either with LED lighting or lamp bulb

Doubly safe

The indicating units have two independently operating moving coil instruments whose inputs can be adapted to current, voltage (AC/DC) or PWM signals.

Versions with current inputs of 4-20 mA make it easier to recognise malfunctions thanks to the mechanical and electrical zero point. The pointer will be below the zero position in case of errors in the current loop.



Scale lighting

The EGS 10/9 is also equipped with an internal LED scale lighting.

Traction and voltage values

EGS 6 indicating units with a customer-specific RS485 - protocol and LED lighting.

The microcontroller is monitored with a reset module. The power is supplied through a galvanically isolated DC/DC converter.



EGS 10/9



EGS 6

Feature / Specification	EGS 10/9	EGS 6
Panel cutout	EGS 10/9: Ø 92 ^{+0.8} x 92 ^{+0.8} mm	EGS 6: Ø 185 ⁺¹ x 92 ⁺¹ mm
Installation depth	EGS 10/9: approx. 108 mm	EGS 6: approx. 100 mm
Weight	EGS 10/9: approx. 1 kg	EGS 6: approx. 0.8 kg
Mounting	EGS 10/9: Tensioning element at the housing	EGS 6: V-clamp
Installation position	EGS 10/9: 0-90-180°	EGS 6: 0-90-160°
Degree of protection front	EGS 9/9 bfa: IP50	EGS 10/9, EGS 6: IP 53
Degree of protection plug	IP40	
Connection	EGS 10/9: 6.3 x 0.8 DIN 46224	EGS 6: Push-on terminal strip 10-pole, + D-Sub9
Internal scale illumination	with LED	
Input signal	EGS 10/9: AC, DC, PWM	EGS 6: RS 485 - Telegram
Data for moving coil device	EGS 10/9: 0-20 mA, 1.5 mA ¹⁾	EGS 6: 1.5 mA
Load resistance	< 20 ohm at 20 mA meas.res.	
Pointer deflection	240°	
Accuracy class	1.5	
Temperature range	-25°C to +70°C	
Test voltage	1,000 V _{eff} 50 Hz, 1 min	
Vibration testing	EN61373, cat: 1, class: B	
Device definition	EN60051, EN50155	
Conformity	CE	
Housing	EGS 10/9: Aluminium	EGS 6: Plastic, fibre reinforced

¹⁾ others upon request

»DEUTA indicating units with stepper motor -

ESG indicating units - for technically demanding usage conditions! «

- Modern ergonomic indicating configuration
- Continuous monitoring of pointer position through autonomous system
- Different types of measured variables can be displayed
- ESG 14 cy: two separate controllers for increased safety requirements (SIL 2)



Modern and secure

Pointers and scales are designed according to the most modern ergonomic aspects of design.

Monitoring function

The pointer position of the **ESG 3** can be transferred back as an 8 bit information to an upper level control unit.

Increased safety

The **ESG 14 cy** has a second separate controller as additional safety for the feedback. The ESG 14 cy is characterised by an integrated monitoring system (feedback unit) which always informs the user about the reliability of the speed information via monitoring by master computer.



ESG 3



ESG 14 cy



Feature / Specification	ESG 3, ESG 14 cy
Panel cutout	ESG 3: Ø 131 ^{+0.5} mm ESG 14 cy: 138 ⁺¹ x 138 ⁺¹ mm
Installation depth	ESG 3: approx. 100 mm ESG 14 cy: approx. 140 mm
Weight	ESG 3: approx. 0.65 kg ESG 14 cy: approx. 1 kg
Mounting	ESG 3: Clamp or assembly bracket ESG 14 cy: Tensioning element at the housing
Installation position	0-90-180°
Degree of protection front face	ESG 3: IP53 ESG 14 cy: IP54
Degree of protection plug	ESG 3: IP40 ESG 14 cy: IP41
Connection	ESG 3: 2 x D-Sub 37-pole ESG 14 cy: 1 x D-Sub 15-pole/ 1 x D-Sub 24
External scale illumination	ESG 3: through light slits ESG 14 cy: with int. LED
Operating voltage	24V DC +/-30 %
Input signal	ESG 3: PWM, TTL ESG 14 cy: RS 485 8 bit
Output	ESG 3: 8 bit binary ESG 14 cy: RS 485
Error message	ESG 3: Open Collector, max. 30 V ESG 14 cy: via LCD
Pointer deflection	ESG 3: 256° ESG14cy: 320°
Accuracy class	ESG 3: 0.6 % ESG 14 cy: 0.7 %
Adjustment speed	ESG 3: 60° <) second ESG 14 cy: 70° <) second
Temperature range	-25°C to +70°C
Test voltage	ESG 3: none ESG14 cy: 1000 V _{eff} , 50 Hz, 1 min
Vibration testing	ENG61373, cat:1, class:B
Conformity	ESG 3: - ESG 14 cy: CE, SIL 2
Housing	ESG 3: Sheet steel ESG 14 cy: Aluminium, painted black
Additional indicator	ESG 3: 3-digit 7-segment display ESG 14 cy: 2 signal lamps, 1 LCD error display, expertise according to SIL 2