

## New Actuator Generation

### REact 30E; 60/100E



The next generation of the REact electric actuator family by RTK GmbH, a CIRCOR Energy brand, is now available.

The REact 30E and 60/100E offer a unique design, along with improvements that meet the latest technological standards.

The actuators offer a number of new technological advantages, such as an optimized positioner, applied Brushless DC technology, as well as a compact, modular structure, and exclusively electric connectors with plug-in connections. A patented adaptive spindle system reduces the structural height, compared to previous editions and the competition.

## 1. Features of the new actuator generation:

- Actuating forces available in 3kN; 6kN and 10kN versions.
- The positioning speeds lie between 0.2mm/s and 1.7mm/s whereby a variety of different positioning speeds are selectable between these values.
- Available in supply voltages 24V; 24VDC; 110V; 230V
- Continuous operation of the motors was improved with the help of heat-conductive materials such as high-grade magnesium alloys, and can now be 100% operated without the motor switching off in an ambient temperature of up to 70°C in most varieties. This actuator generation may be used in low temperatures of up to -20°C without insulation.
- The actuators provide separate force/limit power switches for both directions.
- In the new Brushless DC types, the power consumption can be reduced by up to 60%. (See point 3.)
- New positioner "REpos" with 128\*64 Point Display (see Point 2.)
- A channel PID controller is integrated into the hood and is operable from the outside.



- The actuator is sufficiently protected against environmental influences at a protection rating of IP 65 according to DIN EN 60529. Furthermore, the actuator is also usable in an offshore area due to a special magnesium alloy in the chassis.
- All actuators can be fitted with two potentiometers upon customer request from now on.
- The pre-settable potentiometer was modified from the ST5112 and is now available for all new types.
- A hydraulic fail closed unit with a safety function is certified according to the highest safety category IV of the Pressure Equipment Directive. As well as this, these actuators, like all previous actuators, are certified according to DIN EN 14597.
- An emergency control function with the help of built-in "super caps" shall be available as an additional function up to the end of 2016.

**2. New positioner: (Data sheet: REpos – 7330)**

- 128\*64 Point Graphic Display
- Configuration/parameter setting menu-guided
- Input (0)4..20mA / (0)2..10V
- Control output: Solid-state relays (SSR)
- Automatic initialization
- Manual initialization
- Service/diagnostic functions
- Transducer potentiometer 1K $\Omega$  conductive layer or contactless angle sensor



**3. Brushless DC Technology “REdrive”**

The Brushless DC Version was developed 100% at RTK by the Development Department and therefore expanded the company's expertise in the field.

- An electronic module for all actuator types.
- Standard with four consigned positioning speeds
- Positioning speeds individually pre-settable
- S1 continuous operation
- Conservation of energy up to 60%
- Long operational life



**4. TÜV Testing and Certifications:**

- Tested for electromagnetic compatibility (EMC) by a certified laboratory
- IEC tested by TÜV Süd (CE label)
- NRTL (UL) certification of the actuator generation as well as the production facility (expected availability from July 2016)
- Emergency lock function with fail-safe position according to category IV of the Pressure Equipment Directive; TÜV certified according to DIN EN 14597; (expected availability from August 2016)

5. Comparison REact 30/60/100 vs. ST5112/13/14



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FEATURE / MODEL	REact 30	REact 60	REact 100	ST5112	ST5113	ST5114
Synchronous motors	✓	✓	✓	✓	✓	✓
BLDC motors	✓	✓	✓			
400VAC power supply					✓	✓
NRTL (UL) certification	✓	✓	✓			
Plug-in electric connections	✓	✓	✓			
Force switches in both directions	✓	✓	✓	✓		
Motor rating standard S1 applicable	✓	✓	✓			
Adjustable speed (w/ BLDC technology)	✓	✓	✓			
pre-set feedback potentiometer	✓	✓	✓	✓		
Positioner w/ display and report functions	✓	✓	✓			
Standardized design	✓	✓	✓			
Modular design	✓	✓	✓			
yoke design actuator connection	✓					
Ambient temperature -20°C to +70°C	✓	✓	✓	✓		
Protection rating IP65	✓	✓	✓	✓	✓	✓
fail closed unit	✓	✓	✓	✓	✓	✓
battery operated fail closed unit w/ <i>super caps</i> (open / close)	✓	✓	✓			
Dimensions [h x w x d] mm	233x177x205	233x177x205	233x177x205	206x164x191	265x216x216	265x216x216
Weight [kg]	5	6,7	7	5	10	10,3