

**LUKAS**



# PLAYBOOK







## POWER UNDER e<sup>3</sup> CONTROL

This is the claim of our new e<sup>3</sup> Battery Rescue Equipment series, which I am proud to present to you today with great anticipation.

POWER, as the devices have the proven power and superior performance that you and our customers have come to expect from LUKAS battery-powered rescue equipment.

CONTROL, as we have achieved something revolutionary with the e<sup>3</sup> series. With today's presentation and the official launch of the e<sup>3</sup> series on 5th August 2021, we are the only manufacturer on the market with intelligent equipment. Our LUKAS e<sup>3</sup> Generation gives direct feedback to the user during the work process, enabling him to CONTROL, REGULATE and, if necessary, CORRECT every work step. Nowadays, nobody can imagine driving a car

without a speedometer, a rev counter, or a coolant indicator light. As a driver, I want to know the speed, power reserves or temperature of my vehicle at all times.

So why should this be any different when working with hydraulic rescue equipment? That's why performance diagnostic displays on the dashboard of our e<sup>3</sup> tools intelligently inform the user about the most important functions and status directly in the field.

I would like to explain to you below exactly what these are, what other great innovations the next generation of rescue equipment brings with it, the associated technical background, and why we are once again one step ahead of our market competitors with this new development.



... as we have achieved something revolutionary with the e<sup>3</sup> series.



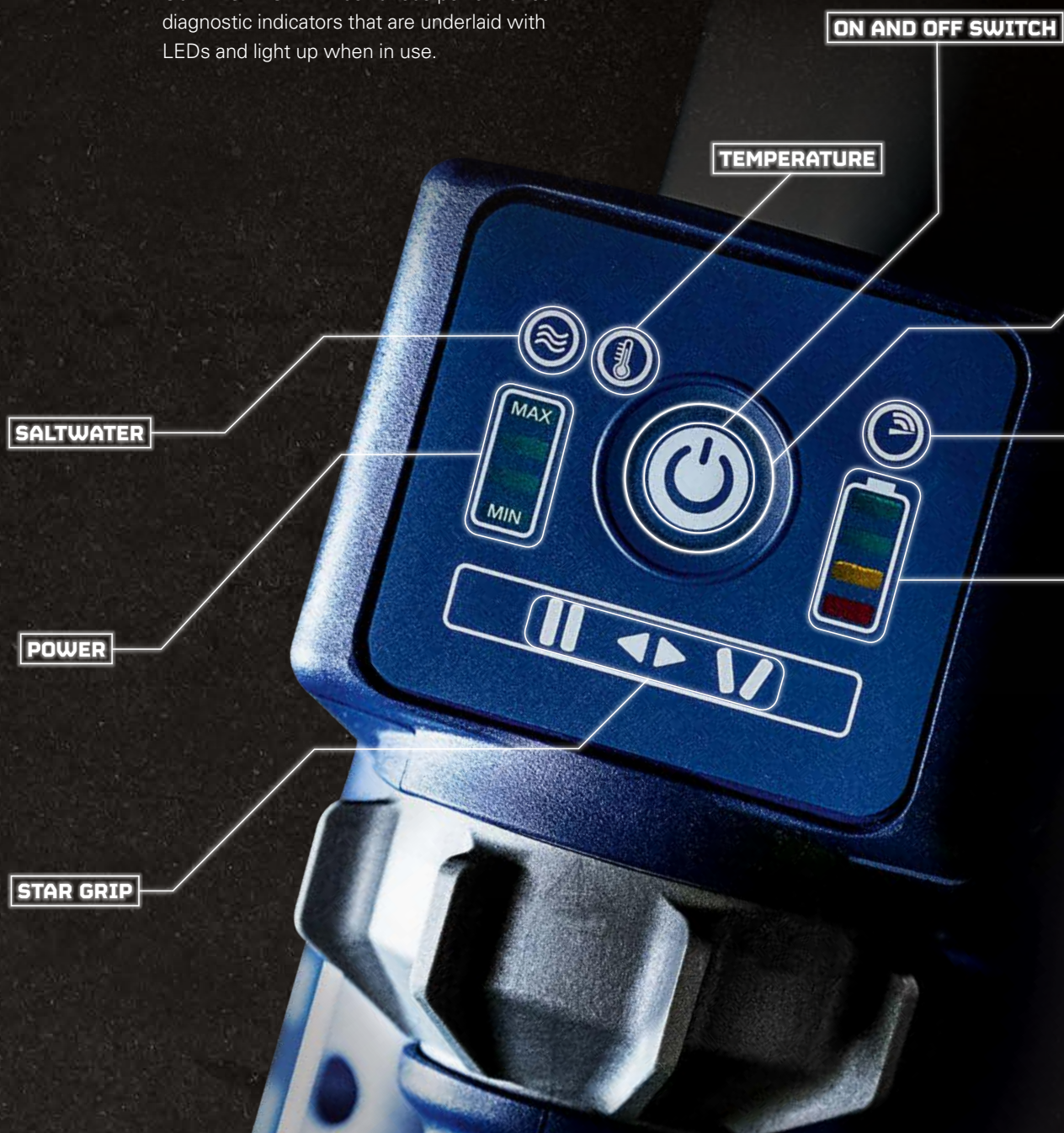
Daniel Engelhardt  
Product Manager LUKAS Rescue



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# DASHBOARD

Our DASHBOARD has various performance diagnostic indicators that are underlaid with LEDs and light up when in use.







**ROLL WARNING**

**TURBO**

**CAPACITY**

Two things were in focus during the development of the new e<sup>3</sup> rescue equipment:

#### POWER & CONTROL

We wanted to build powerful tools, i. e. POWER and the possibility to CONTROL them.

The power and performance of our equipment is already known from the eWXT series. We have adopted all the positive performance features of this generation for the e<sup>3</sup> series. Our cutters with their unique blade geometry, of which two models alone achieve the exceptional NFPA classification „F5“. The three well-known and popular spreaders from the LUKAS portfolio with the extremely handy „Shark-Tooth-Tips“ for a perfect grip on any material. And our versatile combi tools, which can be used flexibly everywhere and with the SC 358 offer a multitool tool that, with its unique combination of power and weight, is probably the best combi available on the market.

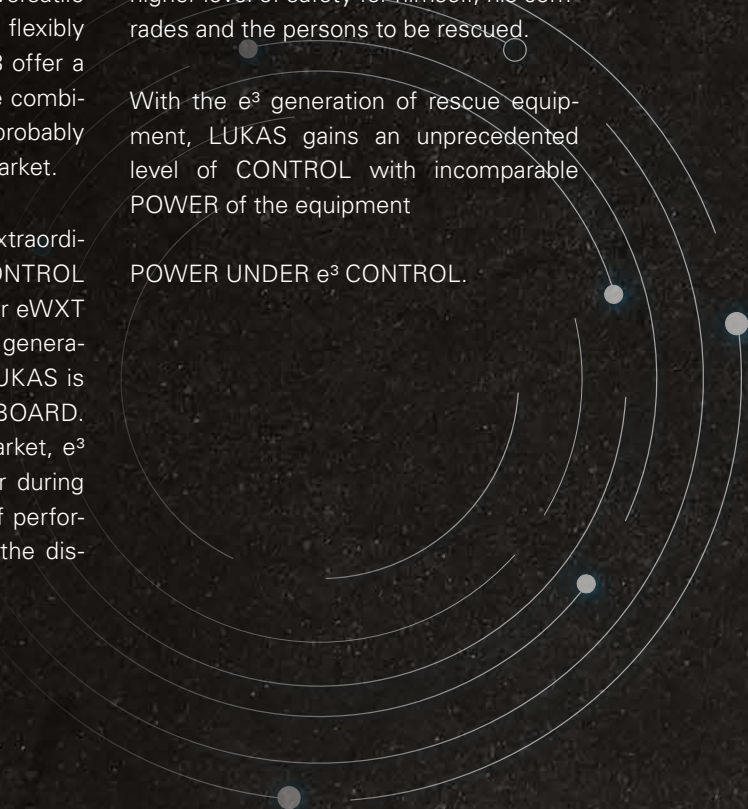
In addition to all these already extraordinary features, the possibility of CONTROL is now added in comparison to our eWXT series. This is because the new e<sup>3</sup> generation of rescue equipment from LUKAS is equipped with the unique DASHBOARD. As the first equipment on the market, e<sup>3</sup> gives direct feedback to the user during the working process by means of performance-diagnostic indications on the display.

From now on, our customers know at any time about the power reserves of the tool, at what speed the tool is currently working, how much remaining capacity our battery has and whether the rescue tool is in an opening or closing movement. Is the tool threatening to tilt too much sideways and could this be a safety issue for the user? What happens to the rescue tool in general? The user receives this and a variety of other feedback when using the tool.

It was important to us to provide the customer with this feedback, to provide him with a better understanding of the rescue tool and thus to significantly improve its handling and operation. We wanted to give him the opportunity to develop and improve in order to ensure a significantly higher level of safety for himself, his comrades and the persons to be rescued.

With the e<sup>3</sup> generation of rescue equipment, LUKAS gains an unprecedented level of CONTROL with incomparable POWER of the equipment

POWER UNDER e<sup>3</sup> CONTROL.





# TURBO

All e<sup>3</sup> rescue tools have our new turbo function. This is activated as soon as the star grip is turned over a defined activation point in the opening or closing direction. A pressure point does not have to be overcome. What makes the turbo unique on the market is its intelligent mode of operation. As soon as the blades of the cutter, the spreader arms, the combination blades or the claw of the cylinder hit very hard material, the tools reduce the working speed to a level optimized for the user and continue working at normal speed. The automated speed adjustment provides a much higher level of SAFETY and

CONTROL, exactly when it is needed. The tool relieves the user of the need to adjust and reduce speed, especially when cutting very hard materials, thus preventing a potentially dangerous situation. An uncontrolled movement of the tool, a twisting of the blades or a slipping of the spreader can be detected, corrected, or stopped much easier at normal speed than when working at continuous turbo speed.

Our e<sup>3</sup> tools continue to work with the same POWER, but the user retains CONTROL over the tool at all times, as the speed adapts to the conditions at hand.





turbo

100%

battery

0%

roll warning

capacity



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We have fulfilled a special request from many of our customers and can now proudly announce that all e<sup>3</sup> rescue tools can now also be used in SALT WATER.

With the introduction of the e<sup>3</sup> series, LUKAS now has the only battery-powered devices available on the market that can be operated in salt water as well as in fresh

water. Like our eWXT, the e<sup>3</sup> series also has the certified protection class IP58, the battery IP68. This means that nothing stands in the way of use in salt water for up to 60 minutes in a water depth of 3m. This feature allows us to significantly expand the range of applications and takes the use of battery-powered rescue equipment to a new level.





# SALT WATER

For use in salt water, we have developed a special salt water battery (blue variant) that can only be used for the e<sup>3</sup> tools.

When we developed our salt water battery, we also had the possibility of CONTROL in mind. If the special salt water battery is inserted, this is recognized by the tool and the „salt water“ symbol on the dashboard lights up. If, on the other hand, only a normal 5 Ah or 9 Ah rescue battery is inserted, the symbol does not light up and the tool must not be used in salt water under any circumstances.

As with the eWXT tools in freshwater use, the e<sup>3</sup> tools require only a very marginal service procedure after freshwater and also salt water use, which requires no further work steps apart from rinsing the tool and maintaining the moving components on the tool head.





# ROLL WARNING

The roll warning is a feature that provides additional safety especially when using the cutter.

Lateral twisting of the cutters in use beyond a limit point, caused by incorrect application or the unfavorable shape of the material to be cut, can cause the material to be cut to press between the blades. This can result in increased lateral force and lead to overlapping or, in rare cases, even breakage of the blades. If the cutters become twisted during the cutting process and this could pose a risk of blade breakage, the LED ring around the start button on the dashboard flashes red and warns the user not to continue the cutting process. The user is warned of any false start and imminent dangerous situation and can take corrective action.

The roll warning is activated by a combination of pressure and tilt angle. If the angle of inclination of the cutters, starting from the position when the cutters are applied, exceeds the degree measure of 15°-degree angle of inclination and the cutters are already working in the high pressure range, the start button lights up red. The combination of these two parameters ensures that the cutter does not light up red when initiating

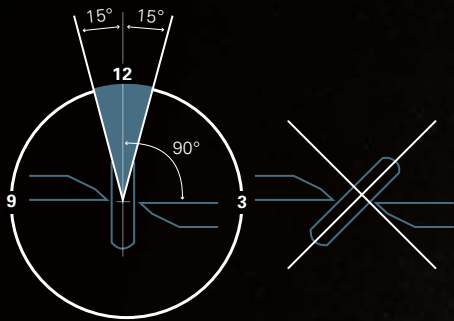
the cut, i. e. while the cutters are still working in the low-pressure range, and search for the optimum cutting position.

The illumination of the warning light on the dashboard serves to support the user for more CONTROL during the cutting process but does not actively interrupt it. The cutter therefore continues to run without restriction. The user is warned and can then continue or stop the cutting process at his own discretion.

The roll warning is only activated on LUKAS cutting and combi tools. This function is deactivated on our spreaders and rescue rams, where twisting is part of the normal working movement even under pressure.

The danger of incorrect application of the cutters is one of the most dangerous situations when working with hydraulic rescue tools. The combination of the newly developed blade geometry with the very large opening widths and the now available e<sup>3</sup> roll warning creates a safety performance far superior to the competition. The user can trust his rescue tool completely and work better with it through CONTROL and SAFETY.





✓ RIGHT

✗ FALSE



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# CAPACITY

By displaying the battery status on the dashboard, we have the remaining voltage of the rescue battery in view at all times. We can therefore no longer be surprised by an empty battery during the cutting process. The display enables us to replace the rescue battery in good time at any time.

The battery level is clearly visible in the user's field of vision and is permanently illuminated on the dashboard. Neither does the tool have to be set down to see the filling level, nor does any button on the battery have to be pressed.





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# POWER



The power indicator gives the user direct feedback on the remaining capacity of the tool. During the cutting or spreading process, he is informed at any time whether the tool still has residual capacity or whether the tool has reached its power limit and cannot continue the work step. The user retains CONTROL over the cutting process at all times and can stop and restart the process when the power limit is reached.

The display on the dashboard is divided into four different LEDs that are illuminated depending on the load. To obtain the respective power reserve, it is not the pressure in the tool that is measured, but the power consumption of the tool. This changes depending on the pressure built up.



75 %



50 %



25 %



0 %

Power reserve

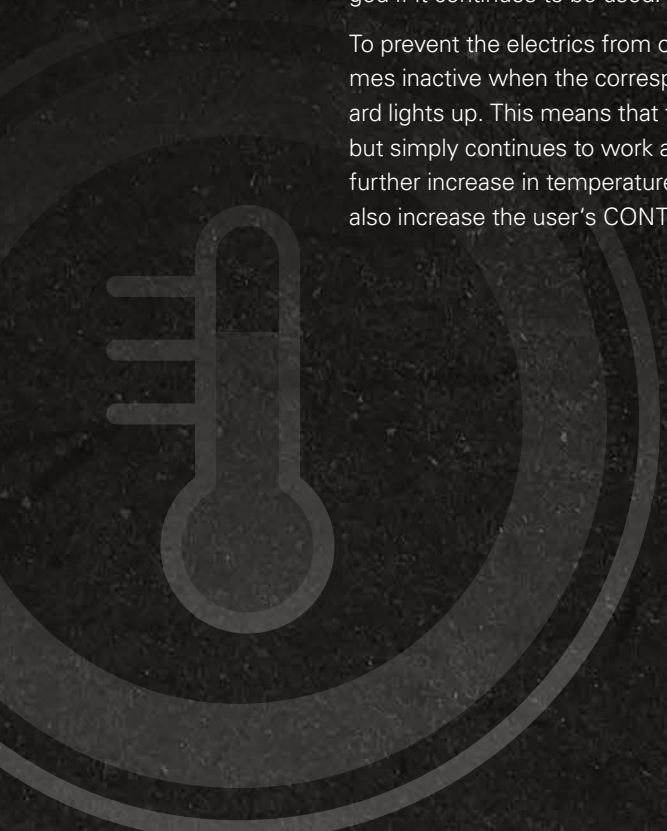


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# TEMPERATURE

The temperature indicator on the dashboard shows the user when the rescue equipment is in danger of overheating during use and the electrical system could be damaged if it continues to be used.

To prevent the electrics from overheating, the turbo becomes inactive when the corresponding LED on the dashboard lights up. This means that the tool does not switch off, but simply continues to work at normal speed to avoid a further increase in temperature. With this new feature we also increase the user's CONTROL over the tool.









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# STAR GRIP

Depending on the direction in which the star grip is turned, the respective opening or closing symbol lights up on the dashboard. In this way, even comrades standing next to the tool who are not working with it can see directly whether the tool is being used and whether it is being opened or closed.











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