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Curtain up! – for the Dynamic Duo from LTi

Quick scene changes; complex, reproducible movements at the press of a button – modern-day stage control and event automation technology is quite on a par with the industrial sphere in terms of the demands it imposes. The primary concerns are safety and trouble-free operation.

Batalpha, a leading manufacturer of event and stage control solutions, is currently working on a major project. The project involves supplying the mechanism and the control for over 300 drive units at the Qatar National Convention Centre, the largest centre of its kind in the Middle East, incorporating a theatre and various exhibition halls. Batalpha is acquiring its drive and safety engineering components from a single source – namely LTi DRIVES.

The duo being deployed comprises the high-end ServoOne servocontroller and the external Safe Monitoring Control (SMC).

As a state-of-the-art drive controller, the ServoOne incorporates the Safe Torque Off (STO) safety function. Certified according to PL e / category 3 as per EN ISO 13849-1 and SIL 3 as per EN 61800-5-2, EN 62061 and IEC 61508, it is fully fit for the future.

All safety functions additionally required are contributed by the freely programmable control. While the ServoOne is handling its motion control tasks it is monitored by the external SMC with no impact on its performance. Alongside the safety functions laid down in EN 61800-5-2, including SS1, SS2, SOS, SLS and SLP, the SMC offers additional safety functions created in line with market

requirements. The Safe Emergency Limit (SEL) safety function, for example, monitors the complete travel range. The usually needed safety limit switches can be omitted. Safe sensors such as emergency stop command units or connector blocks can be connected via safe digital inputs to the SMC and processed. The SMC even provides two safe analog inputs for load measurement systems. Alongside the safe digital inputs, this also permits evaluation up to PL e / category 4 or SIL 3.

A user-friendly programming interface rounds off the SMC's feature package.

Stage control applications impose specific demands in terms of acoustics above and beyond the

required safety functions. Disturbing motor noise must be minimized for example. This is

achieved by the high switching frequency of the ServoOne, which at 16 kHz is well beyond the audible range.

The drive controller can also be customized to the specific requirements of the application. For example, interference frequencies (resonance) can be suppressed by additional filters. For optimization and commissioning purposes, a digital oscilloscope is implemented on the ServoOne user interface.

Whether for plenary debates, for auditorium lectures and speeches, for artistic presentations on stage or simply to provide a pleasant ambience for a banquet meal – the ServoOne/SMC duo is sure to play a key role.



LTi DRIVES GmbH

Gewerbestr. 5-9
35633 Lahnau 5942
Phone: +49 (0) 6441 966-0
E-mail: info@lt-i.com
www.lt-i.com

Heinrich-Hertz-Str. 18
3 Unna
Phone: +49 (0) 2303 779-0
E-mail: info@lt-i.com
www.lt-i.com

Contact: Ingrid Becker · Tel: 06441 966-151 · E-mail: ingrid.becker@lt-i.com