EC21

Dimming for the 21st Century

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EC21

Professional Dimming for the 21st Century

EC21 offers new standards of performance, ruggedness and ease of installation to meet the toughest demands of 21st Century entertainment venues. EC21 is based on a proven Strand design, with over 2 million dimmers installed around the world– solid reliability, day in, day out. EC21 was designed with help from top professional installers– there's plenty of wiring space, and all terminations are easily accessible.

EC21 is flexible – mix and match single, dual, even quad modules, TrueSine™, thyristor, fluorescent, contactors or fillers, in any of three sizes of EC21 rack. We'll design an EC21 system to fit your needs now, and it'll grow with you as those needs change over time.

And EC21 is sophisticated. Strand's TrueSine™ sinewave dimming technology is available in full-density dual modules, at either 3kW or 5kW – with EC21 you don't have to trade space for silence.
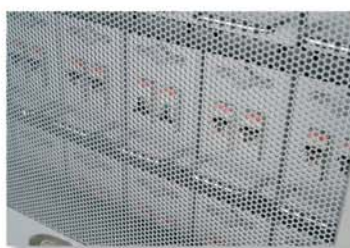
EC21's all-new control electronics live right on your Shownet™ or ACN* control network. The network-centric 16/32-bit RISC processor runs embedded Linux, with a web-based configuration and dimmer reporting system. So you can configure or monitor dimmer performance from a suitable PC, PDA or Strand lighting console. And EC21 even includes Strand Outlook capability at no extra cost – a sophisticated architectural processor in every rack – just connect up Outlook wall panels and you're done. Very 21st Century – very cool.

- High-density modular dimming system
- 24, 36, 48 module racks with lockable EasyView™ steel doors
- Matching 19″ equipment rack
- Up to 96 5kW TrueSine™ dimmers per rack
- DIN-style circuit breakers with single-pole, neutral disconnect and RCD options
- Up to 144 2.5kW SP thyristor dimmers per rack
- Module reporting option (standard with TrueSine™ modules)
- Optional module test/status indicators
- Full range of thyristor dimmers with 200µS or 400µS filter chokes
- Browsable, ethernet-based control module for 96 or 144 dimmers
- Indicator beacon for rapid faultfinding
- Optional redundant tracking control module
- Hard-wired 'panic' backup works even if the rack controller is not present
- Full support for ACN*, DMX, Strand Outlook and SWC control protocols
- Timed event programming
- 90-260Vac, 50/60Hz
- CE, TÜV and VDE approvals

* EC21 hardware is ACN-ready and will be upgradeable to full ACN functionality at such time as the ACN protocol is released for general use.

EC21 configuration and reporting is accessible from any wired or wireless network PC or PDA and networked Strand consoles.

EC21's rugged EasyView™ door assures safety and total security while allowing users easily to identify circuit-breaker trips.

Single or dual electronic modules control up to 144 dimmers per rack. Panic controls may be wired to external switches/systems as required. EC21 Panic is fully functional even when the electronic modules are not present.

Installation

EC21 dimmer racks are easy to install. Power feeds, up to 800amp three-phase, are from above or below, with generously dimensioned buss-bar terminations. All load wires exit the top of the rack, and earthing options are available to facilitate either single or multicore load wiring.

Each control module incorporates an Ethernet switch, allowing the installer effectively to loop the network cable from rack to rack, using standard CAT5 patch cables. There's no need to install an Ethernet switch in the dimmer room, though a Wireless Access Point is recommended, allowing users to access all configuration and reporting features from a suitable PDA or laptop.

EC21 dual reporting module

EC21 quad module

EC21 dual module with RCD option

Dimmer Modules

EC21 dimmer modules are built to last from heavy-duty formed aluminium, and incorporate the highest-quality power components and thermal-magnetic DIN circuit breakers. Standard circuit breaker options include single pole, neutral disconnect and RCD. Power pins are generously overrated at 150amps to ensure low heat rise and absolute reliability.

EC21 racks may be specified with any combination of dimmer modules. Modules are keyed to prevent insertion in inappropriate module slots.

Reporting and TrueSine™ modules also feature a status LED and a test switch for each dimmer circuit – one-touch dimmer testing from the rack, and level/status indication for every dimmer.

And when you just have to get a lot of dimmers in a small space – the EC21 quad is for you! With up to 144 dimmers in a full-size rack, EC21 offers exceptional density when space is at a premium.

TrueSine™
True silence and true economy

Strand's extraordinary TrueSine™ dimming technology gives you two 3kW or 5kW dimmers in a single EC21 module – full density, fully silent! TrueSine™ dimmers output a precise variable sine wave, with no sharp rising edges, and therefore no filament noise. TrueSine™ dimming is a must for concert venues and many houselight applications. But there's more – TrueSine™ dimming systems also eliminate triplen harmonics, meaning that the dimming system puts **no** noise on the power grid. With a power factor of 1, the expensive 'K-rated' supply transformer and oversized neutrals are no longer required, and power company harmonic surcharges are a thing of the past. On some new installations, a 100% Strand TrueSine™ dimming system can pay for itself within the first year of operation.

Status LED and test switch gives dimmer level and status, as well as a one-touch dimmer test.

EC21

Specification and Ordering Information

All EC21 systems are factory-configured for each project.
Contact your Strand Lighting representative for a detailed project proposal.

Technical Specifications

Electrical: 90-260 volts 3 phase up to 800 amps, 50/60Hz.
Environmental: 0-35° C, humidity <90%, non-condensing
Standards Compliance:
EMC emissions to EN50081-1, EN55014
EMC immunity to EN50082-1, IEC1000-2-2
Safety: EN60950, EN60439 Part 1 (also part 12 BS5486)
CE marked and TÜV/VDE approved

Mechanical Data (Rack)

Construction:	Formed steel assembly
Weight	
48-module rack:	223kg (296kg packed)
36-module rack:	202kg (198kg packed)
24-module rack:	181kg (198kg packed)
Dimensions (HxWxD)	
48-module rack:	2032 x 623 x 600mm
36-module rack:	1727 x 623 x 600mm
24-module rack:	1448 x 623 x 600mm

Connections
Ethernet CAT 5 input for ShowNet™ or ACN control protocols
2 DMX512 inputs standard. 2nd DMX512 input can be used to support Strand Outlook Architectural System, Strand System-Wide Control (128 Back up Presets)
RS485 interface for 3rd party AV controllers

Ordering Information

Dimmer Racks

All dimmer racks include EasyView™ lockable steel doors, which are shipped separately.

Cat No	Description
76502/230	EC21 Rack/48 Modules
76503/230	EC21 Rack/48 Modules (with Amp traps)
76542/230	EC21 Rack/36 Modules
76543/230	EC21 Rack/36 Modules (with Amp traps)
76512/230	EC21 Rack/24 Modules
76513/230	EC21 Rack/24 Modules (with Amp traps)
76533	EC21 19" Equipment Rack (48-module height, 42U)
76535	EC21 19" Equipment Rack (36-module height, 36U)
76534	EC21 19" Equipment Rack (24-module height, 30U)
76520/230	EC21 96-Output Rack Processor Housing & Rack Processor Module
76522/230	EC21 96-Output Spare/Backup Rack Processor Module
76521/230	EC21 192-Output Rack Processor Housing & Rack Processor Module
76523/230	EC21 192-Output Spare/Backup Rack Processor Module
76524/230	EC21 Dimmer Rack Spares Kit

Dimmer Modules

Circuit Breaker codes: SP = single pole,
SPN = single pole with neutral disconnect,
RCD = double pole 30mA RCD.

TrueSine™ Sinewave Modules

(all TrueSine™ modules include reporting)

Cat No	Description
76637	Dual 3kW SP
76638	Dual 3kW SPN
76639	Dual 3kW RCD
76640	Dual 5kW SP
76641	Dual 5kW SPN
76642	Dual 5kW RCD

Standard Thyristor Dimmer Modules

Cat No	Description
76600	Quad 2.5kW 100µs SP
76601	Dual 3kW 200µs SP
76602	Dual 3kW 200µs SPN
76603	Dual 3kW 200µs RCD
76604	Dual 3kW 400µs SP
76605	Dual 3kW 400µs SPN
76606	Dual 3kW 400µs RCD
76613	Dual 5kW 200µs SP
76614	Dual 5kW 200µs SPN
76615	Dual 5kW 200µs RCD
76616	Dual 5kW 400µs SP
76617	Dual 5kW 400µs SPN
76618	Dual 5kW 400µs RCD
76625	Single 10kW 200µs SP
76626	Single 10kW 200µs SPN
76627	Single 10kW 200µs RCD
76628	Single 10kW 400µs SP
76629	Single 10kW 400µs SPN
76630	Single 10kW 400µs RCD

Reporting Thyristor Dimmer Modules

Cat No	Description
76607	Dual 3kW 200µs SP
76608	Dual 3kW 200µs SPN
76609	Dual 3kW 200µs RCD
76610	Dual 3kW 400µs SP
76611	Dual 3kW 400µs SPN
76612	Dual 3kW 400µs RCD
76619	Dual 5kW 200µs SP
76620	Dual 5kW 200µs SPN
76621	Dual 5kW 200µs RCD
76622	Dual 5kW 400µs SP
76623	Dual 5kW 400µs SPN
76624	Dual 5kW 400µs RCD
76631	Single 10kW 200µs SP
76632	Single 10kW 200µs SPN
76633	Single 10kW 200µs RCD
76634	Single 10kW 400µs SP
76635	Single 10kW 400µs SPN
76636	Single 10kW 400µs RCD

For LED/Test Switch Option on all reporting modules, add suffix-LED

Fluorescent Dimmer Module

76643	Single 3kW FL SP
76644	Single 3kW FL SPN
76645	Single 3kW FL RCD

Fluorescent modules comprise one switched and one variable output for dimmable 3-wire fluorescent ballasts. To control other ballast types, consult your Strand Lighting Representative.

Nondim (contactor) Modules

Cat No	Description
76646	Dual 3kW ND SP
76647	Dual 3kW ND SPN
76648	Dual 3kW ND RCD
76649	Dual 3kW ND SP Reporting
76650	Dual 3kW ND SPN Reporting
76651	Dual 3kW ND RCD Reporting
76652	Dual 5kW ND SP
76653	Dual 5kW ND SPN
76654	Dual 5kW ND RCD
76655	Dual 5kW ND SP Reporting
76656	Dual 5kW ND SPN Reporting
76657	Dual 5kW ND RCD Reporting

Constant Modules

Cat No	Description
76658	Dual 3kW SP
76659	Dual 3kW SPN
76660	Dual 3kW RCD
76661	Dual 3kW SP Reporting
76662	Dual 3kW SPN Reporting
76663	Dual 3kW RCD Reporting
76664	Dual 5kW SP
76665	Dual 5kW SPN
76666	Dual 5kW RCD
76667	Dual 5kW SP Reporting
76668	Dual 5kW SPN Reporting
76669	Dual 5kW RCD Reporting

Filler Module

Cat No	Description
76588	Single Filler Module
76697	Row Filler Module

Custom Modules

Many custom module variants are available to special order, including dual feed and emergency changeover modules. Please consult Strand Lighting for details.

All specifications are correct at time of going to press. In the interest of continuous product improvement Strand Lighting reserves the right to change specifications without notice.

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