



FROM 10kW TO 30kW

FM TRANSMITTER

ELENOS®
World Broadcast Experience



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Brochure

FM TRANSMITTER **HIGH POWER**

FM TRANSMITTER HIGH POWER

The ET Indium high power product family consists of FM transmitters in which the high power output is obtained through the combination of a suitable number of E 4RU medium power amplifiers (2500 - 5000 W.), a single ETG 2RU or dual set of 2 ETG 2RU modulators (Exciters) and a combiner for the power amplifiers. The overall RF power of the models in this product series ranges from 7 KW to 30 KW and each system can be housed in a single 19" rack. These products represent the most advanced technology in terms of electrical efficiency, compactness, reduced weight, ease of use, and diagnostics. Additionally, the technology in the Elenos High Power Transmitter Line offers the most complete access to transmitter operating data, protection operation, and the ability to operate under severe environmental conditions while maintaining undiminished RF and audio specifications.

This product line has been designed to guarantee the maximum performance and operation while lowering operational costs through energy saving technology.

The ET Indium High Power transmitters achieve levels of overall electrical efficiency unseen in the market today, while also providing an extremely high operational performance under extreme environmental conditions (high external temperatures, poorly adjusted antenna, fluctuations in the network).

The great efficiency of the RF amplifiers, modulator, combiner and power supplies has also allowed a noticeable reduction in operating temperature, system weight and size. The resulting advantages are substantial: easier installation, and lowered transportation, rack space and energy costs. How is this possible? Mainly due to innovative techniques in RF design, intelligent power supplies, and through the use of powerful algorithms designed for optimal performance management.

Features:

Smart Design

Ultra compact size, light weight, clean layout, ease of maintenance and repair.

Low energy consumption

Highly reduced energy consumption and significantly lowered operating costs due to state of the art nature of the design.

Reliability

Extremely high reliability and the ability to ensure continuity of the service even under extreme operating conditions due to intelligent safety protocols, Icefet technology, and Lifextender algorithms.

Total control

Accurate and detailed real time data on the operating status of the transmitter, available at the analytical level, (voltage, current, power, temperature, efficiency, safety, settings, audio levels, communications.)

Local and remote management and control via Sereial Protocol, SMS, GPRS, SNMP, WEB.

Scalability

All products are designed to be scalable with the greatest advantage that any technological improvement affecting the base product is directly transferred to all equipment in the product family via upgrades.



Datasheet

FM TRANSMITTER HIGH POWER | ET10000

FM TRANSMITTER HIGH POWER | ET10000

COMPOSITION	
Exciter (Indium series)	n°1 Exciter Indium Series single drive configuration n°2 Exciter Indium Series dual drive configuration
Amplifier	n°2 Amplifier E5000 Indium Series
Combiner/Control unit	n°1 2-way combiner IN 5000 - OUT 10000 with an internal load composed by 1 group of 6 resistance of 800 W 50 Ω
RF output connector	1+5/8"
Circuit breaker box	4U (on front or rear panel on demand)
GENERAL DATA	
Output nominal maximum power	10000 W
Output power range	1500 ÷ 10000 W
Operating band	87.5 ÷ 108 MHz
Dimensions: Rack units	min. 20U
Dimensions: W - H - D	56.5 - 105 - 107.8cm
Weight	270 kg
RF power stage technology	ICEFET & ECOSAVING
Automatic power RF control	Stabilized output power value on the set value
Overall output power RF stability	+/- 0.1 dB
Cooling system	Forced air-cooling
Air outlet	On the top or on the rear. Cooling flow 2200 /2400 m ³ /h (depending on environment)
RS232/RS485	Yes. Connector DB9 Female
Points of measure	RF Sample - MPX Monitor
AUDIO PERFORMANCE	
MPX input level	+15/-10 dBU for 75 KHz standard deviation
MPX level adjustment	Soft adjust 0.1 dB steps from front panel
MPX input impedance	5 KΩ selectable
L/R input level	+15/-10 dBU for 75 KHz standard deviation
L/R level adjustment	Soft adjust 0.1 dBU steps from front panel
L/R Input Impedance	Selectable 10 K - 600 Ω, balanced
AES/EBU input resolution	24 bits
AES/EBU input sample rate	32,44.1,48,96 KHz Automatically selected
AES/EBU input level	-20 dBFS - 0 dBFS
AES/EBU input impedance	110 Ω balanced
AES/EBU-Analog input automatic changeover	Yes
PILOT Amplitude adjustment	Soft adjust 0.05% steps from front panel
PILOT Phase adjustment	Soft adjust 0.01 degree steps from front panel
PILOT tone frequency	19 KHz
PILOT tone deviation	Soft adjust +/- 7.5 KHz
PILOT tone frequency stability	+/- 1 Hz
THD+N (stereo/mono operation)	< 0.05% with 75 KHz frequency deviation < 0.05% with 100 KHz frequency deviation 30 Hz to 15 KHz
Pre-emphasis	0/25/50/75 microseconds, selectable
Pre-emphasis tolerance	+/- 0.1 dB
FM S/N (MPX operation)	82 dB 20 Hz to 23 KHz @ 53 KHz - detector RMS
FM S/N CCIR (stereo/mono operation)	> = 72 dB weighted > = 72 dB unweighted 400 Hz, 75 KHz frequency deviation, quasi-peak detector, 50 us de-emphasis
Asynchronous AM S/N unweighted	> = 55 dB a 400 Hz, 75 us de-emphasis
Synchronous AM S/N	> = 50 dB a 400 Hz, 75 us de-emphasis
Amplitude-frequency characteristic (stereo/mono operation)	+/- 0.1 dB (without pre-emphasis) +/- 0.1 dB (with pre-emphasis) 20 Hz to 15 KHz, @ 400 Hz
Stereo Crosstalk (typical)	60 dB @ 400 Hz to 10 KHz
Linear crosstalk	>60 db 20 Hz to 15 KHz
Intermodulation distortion	<0.05% Measured with two of tones 1 KHz & 1.3 KHz, ratio 1:1 at 100% modulation

FM TRANSMITTER HIGH POWER | ET10000

Class of emission	F3
Stereo emission	According to ITU-R recommendation 450 (pilot tone)
EXCITER PERFORMANCE	
PLL lock time	<10 sec
Frequency deviation	+/- 75 KHz 0.1 dB steps adjustable
Maximum frequency deviation	+/- 150 KHz
Frequency stability	1 ppm
RF Frequency steps	10 KHz
Phase Response	+/- 0.1 degree from linear phase; 20 KHz to 100 KHz
INSTALLATION REQUIREMENTS	
Power supply	380 V or 400 V, Threephase + neutral wire 50-60 Hz* 210 V, Threephase (WYE without neutral)*
	* to be specified when placing the order
Power consumption	15 KW
Current consumption @230VAC/Threephase	42 A
Overall efficiency (typical from - 3 dB to Pman)	68%
Power factor	>0.95
Current consumption @380VAC/Threephase	24 A
ENVIRONMENT	
Temperature range (operating)	-5 ÷ +45 °C, 23 ÷ 113 °F
Temperature range (non operating)	-20 ÷ +55 °C, -4 ÷ 131 °F
Humidity range (operating)	95% @ 40 °C, 104 °F
Humidity range (non operating)	90% @ 55 °C, 131 °F
Altitude range (operating)	<3000 meters / <9840 Feet
Altitude range (non operating)	<15000 meters / < 49200 Feet
TELECONTROL & TELEMETRY	
Remote control	Yes
Remote Control at clean contacts	Yes
SNMP option	Yes (external)



Datasheet

FM TRANSMITTER HIGH POWER | ET15000

FM TRANSMITTER HIGH POWER | ET15000

COMPOSITION	
Exciter (Indium series)	n°1 Exciter Indium Series single drive configuration n°2 Exciter Indium Series dual drive configuration
Amplifier	n°3 Amplifier E5000 Indium Series
Combiner/Control unit	n°1 3-Way Combiner IN 5000 - OUT 15000 with an internal load composed by 3 group of 6 resistance of 800 W 50 Ω
RF output connector	3+1/8"
Circuit breaker box	4U (on front or rear panel on demand)
GENERAL DATA	
Output nominal maximum power	15000 W
Output power range	1500 ÷ 15000 W
Operating band	87.5 ÷ 108 MHz
Dimensions: Rack units	min. 32U
Dimensions: W - H - D	56.5 - 160.3 - 107.8 cm
Weight	320 kg
RF power stage technology	ICEFET & ECOSAVING
Automatic power RF control	Stabilized output power value on the set value
Overall output power RF stability	+/- 0.1 dB
Cooling system	Forced air-cooling
Air outlet	On the top. Cooling flow 3250 /4500 m3/h (depending on environment)
RS232/RS485	Yes. Connector DB9 female
Points of measure	RF Sample - MPX Monitor
AUDIO PERFORMANCE	
MPX input level	+15/-10 dBu for 75 KHz standard deviation
MPX level adjustment	Soft adjust 0.1 dB steps from front panel
MPX input impedance	5 KΩ selectable
L/R input level	+15/-10 dBu for 75 KHz standard deviation
L/R level adjustment	Soft adjust 0.1 dBu steps from front panel
L/R Input Impedance	Selectable 10 K - 600 Ω, balanced
AES/EBU input resolution	24 bits
AES/EBU input sample rate	32,44.1,48,96 KHz Automatically selected
AES/EBU input level	-20 dBFS - 0 dBFS
AES/EBU input impedance	110 Ω balanced
AES/EBU-Analog input automatic changeover	Yes
PILOT Amplitude adjustment	Soft adjust 0.05% steps from front panel
PILOT Phase adjustment	Soft adjust 0.01 degree steps from front panel
PILOT tone frequency	19 KHz
PILOT tone deviation	Soft adjust +/- 7.5 KHz
PILOT tone frequency stability	+/- 1 Hz
THD+N (stereo/mono operation)	< 0.05% with 75 KHz frequency deviation < 0.05% with 100 KHz frequency deviation 30 Hz to 15 KHz
Pre-emphasis	0/25/50/75 microseconds, selectable
Pre-emphasis tolerance	+/- 0.1 dB
FM S/N (MPX operation)	82 dB 20 Hz to 23 KHz @ 53 KHz - detector RMS
FM S/N CCIR (stereo/mono operation)	> = 72 dB weighted > = 72 dB unweighted 400 Hz, 75 kHz frequency deviation, quasi-peak detector, 50 us de-emphasis
Asynchronous AM S/N unweighted	> = 55 dB a 400 Hz, 75 us de-emphasis
Synchronous AM S/N	> = 50 dB a 400 Hz, 75 us de-emphasis
Amplitude-frequency characteristic (stereo/mono operation)	+/- 0.1 dB (without pre-emphasis) +/- 0.1 dB (with pre-emphasis) 20 Hz to 15 KHz, @ 400 Hz
Stereo Crosstalk (typical)	60 dB @ 400 Hz to 10 KHz
Linear crosstalk	>60 db 20 Hz to 15 KHz
Intermodulation distortion	<0.05% Measured with two of tones 1 KHz & 1.3 KHz, ratio 1:1 at 100% modulation

FM TRANSMITTER HIGH POWER | ET15000

Class of emission	F3
Stereo emission	According to ITU-R recommendation 450 (pilot tone)
EXCITER PERFORMANCE	
PLL lock time	<10 sec
Frequency deviation	+/- 75 KHz 0.1 dB steps adjustable
Maximum frequency deviation	+/- 150 KHz
Frequency stability	1 ppm
RF Frequency steps	10 KHz
Phase Response	+/- 0.1 degree from linear phase; 20 KHz to 100 KHz
INSTALLATION REQUIREMENTS	
Power supply	380 V or 400 V, Threephase + neutral wire 50-60 Hz* 210 V, Threephase (WYE without neutral)*
	* to be specified when placing the order
Power consumption	22 KW
Current consumption @230VAC/Threephase	63 A
Overall efficiency (typical from - 3 dB to Pman)	68%
Power factor	>0.95
Current consumption @380VAC/Threephase	36 A
ENVIRONMENT	
Temperature range (operating)	-5 ÷ +45 °C, 23 ÷ 113 °F
Temperature range (non operating)	-20 ÷ +55 °C, -4 ÷ 131 °F
Humidity range (operating)	95% @ 40 °C, 104 °F
Humidity range (non operating)	90% @ 55 °C, 131 °F
Altitude range (operating)	<3000 meters / <9840 Feet
Altitude range (non operating)	<15000 meters / < 49200 Feet
TELECONTROL & TELEMETRY	
Remote control	Yes
Remote Control at clean contacts	Yes
SNMP option	Yes (external)



Datasheet

FM TRANSMITTER HIGH POWER | ET20000

FM TRANSMITTER HIGH POWER | ET20000

COMPOSITION

Exciter (Indium series)	n°1 Exciter Indium Series single drive configuration n°2 Exciter Indium Series dual drive configuration
Amplifier	n°4 Amplifier E5000 Indium Series
Combiner	n°1 4-way combiner IN 5000 - OUT 20000 with external CPU/control unit and load (4U)
Dummy load	n°1 dummy load (4U)
Control unit	n° 1 control unit (4U). From the frontal panel/ from PC, a careful analysis of the functioning through detailed measurement of currents, voltages, temperatures and powers
RF output connector	3+1/8"
Circuit breaker box	6U (on front or rear panel on demand)

GENERAL DATA

Output nominal maximum power	20000 W
Output power range	1500 ÷ 20000 W
Operating band	87.5 ÷ 108 MHz
Dimensions: Rack units	min. 32U
Dimensions: W - H - D	56.5 - 192.5 - 107.8 cm (with fan)
Weight	370 kg
RF power stage technology	ICEFET & ECOSAVING
Automatic power RF control	Stabilized output power value on the set value
Overall output power RF stability	+/- 0.1 dB
Cooling system	Forced air-cooling
Air outlet	On the top. Cooling flow 4000 m3/h (depending on environment)
RS232/RS485	Yes. Connector DB9 female
Points of measure	RF Sample - MPX Monitor

AUDIO PERFORMANCE

MPX input level	+15/-10 dBu for 75 KHz standard deviation
MPX level adjustment	Soft adjust 0.1 dB steps from front panel
MPX input impedance	5 KΩ selectable
L/R input level	+15/-10 dBu for 75 KHz standard deviation
L/R level adjustment	Soft adjust 0.1 dBu steps from front panel
L/R Input Impedance	Selectable 10 K - 600 Ω, balanced
AES/EBU input resolution	24 bits
AES/EBU input sample rate	32,44.1,48,96 KHz Automatically selected
AES/EBU input level	-20 dBFS - 0 dBFS
AES/EBU input impedance	110 Ω balanced
AES/EBU-Analog input automatic changeover	Yes
PILOT Amplitude adjustment	Soft adjust 0.05% steps from front panel
PILOT Phase adjustment	Soft adjust 0.01 degree steps from front panel
PILOT tone frequency	19 KHz
PILOT tone deviation	Soft adjust +/- 7.5 KHz
PILOT tone frequency stability	+/- 1 Hz
THD+N (stereo/mono operation)	< 0.05% with 75 KHz frequency deviation < 0.05% with 100 KHz frequency deviation 30 Hz to 15 KHz
Pre-emphasis	0/25/50/75 microseconds, selectable
Pre-emphasis tolerance	+/- 0.1 dB
FM S/N (MPX operation)	82 dB 20 Hz to 23 KHz @ 53 KHz - detector RMS
FM S/N CCIR (stereo/mono operation)	> = 72 dB weighted > = 72 dB unweighted 400 Hz, 75 KHz frequency deviation, quasi-peak detector, 50 us de-emphasis
Asynchronous AM S/N unweighted	> = 55 dB a 400 Hz, 75 us de-emphasis
Synchronous AM S/N	> = 50 dB a 400 Hz, 75 us de-emphasis
Amplitude-frequency characteristic (stereo/mono operation)	+/- 0.1 dB (without pre-emphasis) +/- 0.1 dB (with pre-emphasis) 20 Hz to 15 KHz, @ 400 Hz

FM TRANSMITTER HIGH POWER | ET20000

Stereo Crosstalk (typical)	60 dB @ 400 Hz to 10 KHz
Linear crosstalk	>60 db 20 Hz to 15 KHz
Intermodulation distortion	<0.05% Measured with two of tones 1 KHz & 1.3 KHz, ratio 1:1 at 100% modulation
Class of emission	F3
Stereo emission	According to ITU-R recommendation 450 (pilot tone)
EXCITER PERFORMANCE	
PLL lock time	<10 sec
Frequency deviation	+/- 75 KHz 0.1 dB steps adjustable
Maximum frequency deviation	+/- 150 KHz
Frequency stability	1 ppm
RF Frequency steps	10 KHz
Phase Response	+/- 0.1 degree from linear phase; 20 KHz to 100 KHz
INSTALLATION REQUIREMENTS	
Power supply	380 V or 400 V, Threephase + neutral wire 50-60 Hz* 210 V, Threephase (WYE without neutral)* * to be specified when placing the order
Power consumption	29 KW
Current consumption @230VAC/Threephase	73 A
Overall efficiency (typical from - 3 dB to Pman)	68%
Power factor	>0.95
Current consumption @380VAC/Threephase	43 A
ENVIRONMENT	
Temperature range (operating)	-5 ÷ +45 °C, 23 ÷ 113 °F
Temperature range (non operating)	-20 ÷ +55 °C, -4 ÷ 131 °F
Humidity range (operating)	95% @ 40 °C, 104 °F
Humidity range (non operating)	90% @ 55 °C, 131 °F
Altitude range (operating)	<3000 meters / <9840 Feet
Altitude range (non operating)	<15000 meters / < 49200 Feet
TELECONTROL & TELEMETRY	
Remote control	Yes
Remote Control at clean contacts	Yes
SNMP option	Yes (external)



Datasheet

FM TRANSMITTER HIGH POWER | ET25000

FM TRANSMITTER HIGH POWER | ET25000

COMPOSITION

Exciter (Indium series)	n°1 Exciter Indium Series single drive configuration n°2 Exciter Indium Series dual drive configuration
Amplifier	n°5 Amplifier E5000 Indium Series
Combiner	n°1 5-way combiner IN 5000 - OUT 25000 with external CPU/control unit and load (4U)
Dummy load	n°1 dummy load (4U)
Control unit	n°1 control unit (4U). From the frontal panel/from PC, a careful analysis of the functioning through detailed measurement of currents, voltages, temperatures and powers
RF output connector	3+1/8"
Circuit breaker box	6U (on rear panel)

GENERAL DATA

Output nominal maximum power	25000 W
Output power range	2500 ÷ 25000 W
Operating band	87.5 ÷ 108 MHz
Dimensions: Rack units	min. 40U
Dimensions: W - H - D	56.5 - 228.2 - 107.8 cm (with fan)
Weight	400 kg
RF power stage technology	ICEFET & ECOSAVING
Automatic power RF control	Stabilized output power value on the set value
Overall output power RF stability	+/- 0.1 dB
Cooling system	Forced air-cooling
Air outlet	On the top. Cooling flow 4000 m3/h (depending on environment)
RS232/RS485	Yes. Connector DB9 female
Points of measure	RF Sample - MPX Monitor

AUDIO PERFORMANCE

MPX input level	+15/-10 dBu for 75 KHz standard deviation
MPX level adjustment	Soft adjust 0.1 dB steps from front panel
MPX input impedance	5 KΩ selectable
L/R input level	+15/-10 dBu for 75 KHz standard deviation
L/R level adjustment	Soft adjust 0.1 dBu steps from front panel
L/R Input Impedance	Selectable 10 K - 600 Ω, balanced
AES/EBU input resolution	24 bits
AES/EBU input sample rate	32,44.1,48,96 KHz Automatically selected
AES/EBU input level	-20 dBFS - 0 dBFS
AES/EBU input impedance	110 Ω balanced
AES/EBU-Analog input automatic changeover	Yes
PILOT Amplitude adjustment	Soft adjust 0.05% steps from front panel
PILOT Phase adjustment	Soft adjust 0.01 degree steps from front panel
PILOT tone frequency	19 KHz
PILOT tone deviation	Soft adjust +/- 7.5 KHz
PILOT tone frequency stability	+/- 1 Hz
THD+N (stereo/mono operation)	< 0.05% with 75 KHz frequency deviation < 0.05% with 100 KHz frequency deviation 30 Hz to 15 KHz
Pre-emphasis	0/25/50/75 microseconds, selectable
Pre-emphasis tolerance	+/- 0.1 dB
FM S/N (MPX operation)	82 dB 20 Hz to 23 KHz @ 53 KHz - detector RMS
FM S/N CCIR (stereo/mono operation)	> = 72 dB weighted > = 72 dB unweighted 400 Hz, 75 KHz frequency deviation, quasi-peak detector, 50 us de-emphasis
Asynchronous AM S/N unweighted	> = 55 dB a 400 Hz, 75 us de-emphasis
Synchronous AM S/N	> = 50 dB a 400 Hz, 75 us de-emphasis
Amplitude-frequency characteristic (stereo/mono operation)	+/- 0.1 dB (without pre-emphasis) +/- 0.1 dB (with pre-emphasis) 20 Hz to 15 KHz, @ 400 Hz

FM TRANSMITTER HIGH POWER | ET25000

Stereo Crosstalk (typical)	60 dB @ 400 Hz to 10 KHz
Linear crosstalk	>60 db 20 Hz to 15 KHz
Intermodulation distortion	<0.05% Measured with two of tones 1 KHz & 1.3 KHz, ratio 1:1 at 100% modulation
Class of emission	F3
Stereo emission	According to ITU-R recommendation 450 (pilot tone)
EXCITER PERFORMANCE	
PLL lock time	<10 sec
Frequency deviation	+/- 75 KHz 0.1 dB steps adjustable
Maximum frequency deviation	+/- 150 KHz
Frequency stability	1 ppm
RF Frequency steps	10 KHz
Phase Response	+/- 0.1 degree from linear phase; 20 KHz to 100 KHz
INSTALLATION REQUIREMENTS	
Power supply	380 V or 400 V, Threephase + neutral wire 50-60 Hz* 210 V, Threephase (WYE without neutral)* * to be specified when placing the order
Power consumption	37 KW
Current consumption @230VAC/Threephase	92 A
Overall efficiency (typical from - 3 dB to Pman)	68%
Power factor	>0.95
Current consumption @380VAC/Threephase	53 A
ENVIRONMENT	
Temperature range (operating)	-5 ÷ +45 °C, 23 ÷ 113 °F
Temperature range (non operating)	-20 ÷ +55 °C, -4 ÷ 131 °F
Humidity range (operating)	95% @ 40 °C, 104 °F
Humidity range (non operating)	90% @ 55 °C, 131 °F
Altitude range (operating)	<3000 meters / <9840 Feet
Altitude range (non operating)	<15000 meters / < 49200 Feet
TELECONTROL & TELEMETRY	
Remote control	Yes
Remote Control at clean contacts	Yes
SNMP option	Yes (external)



Datasheet

FM TRANSMITTER HIGH POWER | ET30000

FM TRANSMITTER HIGH POWER | ET30000

COMPOSITION

Exciter (Indium series)	n°1 Exciter Indium Series single drive configuration n°2 Exciter Indium Series dual drive configuration
Amplifier	n°6 Amplifier E5000 Indium Series
Combiner	n°1 6-way combiner IN 5000 - OUT 30000 with external CPU/control unit and load (4U)
Dummy load	n°1 dummy load (4U)
Control unit	n°1 control unit (4U). From the frontal panel/from PC, a careful analysis of the functioning through detailed measurement of currents, voltages, temperatures and powers
RF output connector	3+1/8"
Circuit breaker box	6U (on rear panel)

GENERAL DATA

Output nominal maximum power	30000 W
Output power range	3000 ÷ 30000 W
Operating band	87.5 ÷ 108 MHz
Dimensions: Rack units	min. 40U
Dimensions: W - H - D	56.5 - 228.2 - 107.8 cm (with fan)
Weight	460 kg
RF power stage technology	ICEFET & ECOSAVING
Automatic power RF control	Stabilized output power value on the set value
Overall output power RF stability	+/- 0.1 dB
Cooling system	Forced air-cooling
Air outlet	On the top. Cooling flow 4000 m3/h (depending on environment)
RS232/RS485	Yes. Connector DB9 female
Points of measure	RF Sample - MPX Monitor

AUDIO PERFORMANCE

MPX input level	+15/-10 dBu for 75 KHz standard deviation
MPX level adjustment	Soft adjust 0.1 dB steps from front panel
MPX input impedance	5 KΩ selectable
L/R input level	+15/-10 dBu for 75 KHz standard deviation
L/R level adjustment	Soft adjust 0.1 dBu steps from front panel
L/R Input Impedance	Selectable 10 K - 600 Ω, balanced
AES/EBU input resolution	24 bits
AES/EBU input sample rate	32,44.1,48,96 KHz Automatically selected
AES/EBU input level	-20 dBFS - 0 dBFS
AES/EBU input impedance	110 Ω balanced
AES/EBU-Analog input automatic changeover	Yes
PILOT Amplitude adjustment	Soft adjust 0.05% steps from front panel
PILOT Phase adjustment	Soft adjust 0.01 degree steps from front panel
PILOT tone frequency	19 KHz
PILOT tone deviation	Soft adjust +/- 7.5 KHz
PILOT tone frequency stability	+/- 1 Hz
THD+N (stereo/mono operation)	< 0.05% with 75 KHz frequency deviation < 0.05% with 100 KHz frequency deviation 30 Hz to 15 KHz
Pre-emphasis	0/25/50/75 microseconds, selectable
Pre-emphasis tolerance	+/- 0.1 dB
FM S/N (MPX operation)	82 dB 20 Hz to 23 KHz @ 53 KHz - detector RMS
FM S/N CCIR (stereo/mono operation)	> = 72 dB weighted > = 72 dB unweighted 400 Hz, 75 KHz frequency deviation, quasi-peak detector, 50 us de-emphasis
Asynchronous AM S/N unweighted	> = 55 dB a 400 Hz, 75 us de-emphasis
Synchronous AM S/N	> = 50 dB a 400 Hz, 75 us de-emphasis
Amplitude-frequency characteristic (stereo/mono operation)	+/- 0.1 dB (without pre-emphasis) +/- 0.1 dB (with pre-emphasis) 20 Hz to 15 KHz, @ 400 Hz

FM TRANSMITTER HIGH POWER | ET30000

Stereo Crosstalk (typical)	60 dB @ 400 Hz to 10 KHz
Linear crosstalk	>60 db 20 Hz to 15 KHz
Intermodulation distortion	<0.05% Measured with two of tones 1 KHz & 1.3 KHz, ratio 1:1 at 100% modulation
Class of emission	F3
Stereo emission	According to ITU-R recommendation 450 (pilot tone)

EXCITER PERFORMANCE

PLL lock time	<10 sec
Frequency deviation	+/- 75 KHz 0.1 dB steps adjustable
Maximum frequency deviation	+/- 150 KHz
Frequency stability	1 ppm
RF Frequency steps	10 KHz
Phase Response	+/- 0.1 degree from linear phase; 20 KHz to 100 KHz

INSTALLATION REQUIREMENTS

Power supply	380 V or 400 V, Threephase + neutral wire 50-60 Hz* 210 V, Threephase (WYE without neutral)* * to be specified when placing the order
Power consumption (typical)	44 KW
Current consumption (typical @230VAC/Threephase)	110 A
Overall efficiency (typical from - 3 dB to Pman)	68%
Power factor	>0.95
Current consumption (typical @380VAC/Threephase)	64 A

ENVIRONMENT

Temperature range (operating)	-5 ÷ +45 °C, 23 ÷ 113 °F
Temperature range (non operating)	-20 ÷ +55 °C, -4 ÷ 131 °F
Humidity range (operating)	95% @ 40 °C, 104 °F
Humidity range (non operating)	90% @ 55 °C, 131 °F
Altitude range (operating)	<3000 meters / <9840 Feet
Altitude range (non operating)	<15000 meters / < 49200 Feet

TELECONTROL & TELEMETRY

Remote control	Yes
Remote Control at clean contacts	Yes
SNMP option	Yes (external)

