

FTSU - FREQUENCY AND TIME SYNTHESIS DISTRIBUTION UNITS



**Low Phase Noise, Programmable Frequency and
Time Signal Synthesis / Distribution Units**

FTSU 100, 100B, 100C, 100D & 200



AS9100D Certificate Number : C0210021-AS3



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Specifications Note : Products are readily configurable for special requirements - please contact Sales for assistance

Input Specifications - FTSU-100x & FTSU-200

Reference Frequency Inputs	Details
Connectors	2 x Rear panel SMA/QMA
Amplitude	0.5 V to 1.0V RMS - Nominally factory set at 1V RMS - Transformer coupled
Input Impedance	50 Ohms
Frequency	10 MHz +/- 5PPM
1PPS Inputs (Optional)	
Connectors	2 x Rear panel SMA/QMA
Amplitude	1.0 V to 5.0V Vpp
Input Impedance	50 Ohms nominal
AC Time Code Inputs (Optional)	
Number of inputs	2 x Rear panel SMA/QMA
Amplitude	3.3V
Input Impedance	> 5K
Fault Discrete Inputs (Optional)	
Number of inputs	2
Connector	9 Way D Type Socket
Level	TTL
Active Level	Link selectable, high or low to force reference changeover

Output Specifications - FTSU-100x & FTSU-200

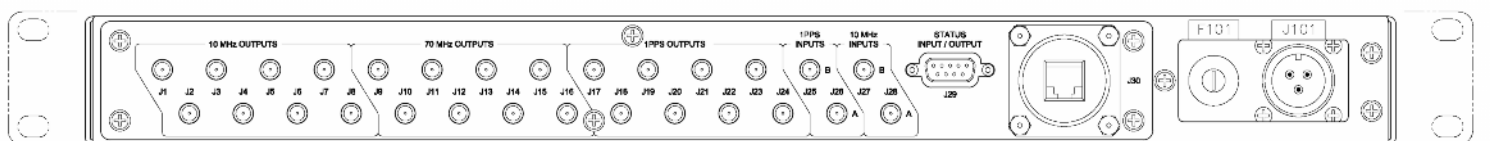
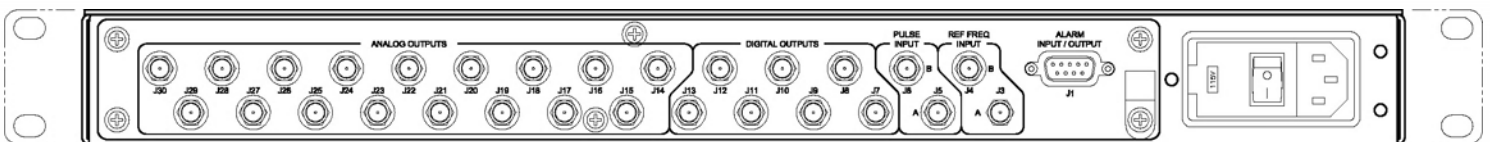
Reference Frequency Outputs	FTSU-100	FTSU-100A	FTSU-100B	FTSU-100C	FTSU-100D	FTSU-200
Part Number	001-0088	001-0062A	001-0133	001-0151	001-0280 / 0211	001-0080
Number of outputs	8 x SMA	8 x SMA	8 x SMA	8 x SMA	8 x QMA	10 x SMA
Frequency (MHz)	Same as input, 5 or 10 MHz					
Level dBm into 50 Ohms	+13 +/- 2	+13 +/- 2	+13 +/- 2	+13 +/- 2	+5 to +13 (adj)	+13 +/- 2
Stability without input	Temperature: ± 3 x 10 ⁻⁹ from 0 - 60°C / Aging: 5 x 10 ⁻⁷ per year					
Synthesised Outputs						
Number of outputs	5 x SMA	5 x SMA	5 x SMA	5 x SMA	8 x QMA	7 x SMA
Frequency (MHz)	Synthesised 1, 5, 10 & 64.8MHz or customisable per customer request					
Level dBm into 50 Ohms	+13 +/- 2	+13 +/- 2	10 +/- 1	10 +/- 1	+8 to +15 (adj)	+13 +/- 2
Stability without input	Temperature: ± 3 x 10 ⁻⁹ from 0 - 60°C / Aging: 5 x 10 ⁻⁷ per year					
User Link Selectable Outputs						
Number of link selected outputs (Reference or synthesised signals)	4 x SMA 5 or 10 MHz	4 x SMA 5,10 & 64.8MHz	4 x SMA 5,10 & 64.8MHz	4 x SMA 5,10 & 64.8MHz	8 x QMA 5,10 & 70MHz	Not Applicable
Level dBm into 50 Ohms	+13 +/- 2	+13 +/- 2	+10 +/- 2	+10 +/- 2	+10 +/- 2	Not Applicable
Optional AC Time Code Outputs						
Alternative order options to replace synthesised and link selectable outputs	8 x SMA	8 x SMA	5 x SMA	5 x SMA	Not Applicable	12 x SMA
Signal Level (Volts) into 50 Ohms	2V +/- 0.25V	2V +/- 0.1V	2V +/- 0.25V	2V +/- 0.25V	Not Applicable	2V +/- 0.25V
Pulse Outputs						
Number of outputs (20µs width)	5 x SMA	5 x SMA	5 x SMA	5 x SMA	8 x QMA	5 x SMA
Signal Level (Volts) into 50 Ohms	0 - 4.5V +/- 0.5V	0 - 4.5V +/- 0.5V	0 - 4.5V +/- 0.5V	0 - 4.5V +/- 0.5V	0 - 4.5V +/- 0.5V	0 - 4.5V +/- 0.5V
SSB Phase Noise @ 10 MHz						
1 Hz	-90 dBc					
10Hz	-115 dBc					
100Hz	-140 dBc					
1KHz	-150 dBc					
10KHz	-155 dBc					
100KHz	-157 dBc					
Status Output - DB9 connector						
Logical OR of fault status indicators	Dry relay Contact Form C					
Signal Levels	Link set as either active high (5V) or active Low (0V)					

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Specifications - FTSU-100x & FTSU-200

Signal Noise Sources	Details
Harmonic Distortion	-30dBc - all units except FTSU-100C : FTSU-100C has improved filtering, see table below
Cross Talk	-60dBc - all units except FTSU-100C : FTSU-100C has improved filtering, see table below
Spurious	-80dBc - all units except FTSU-100C : FTSU-100C has improved filtering, see table below
Signal Noise Sources - FTSU-100C	
2 nd Harmonic Distortion	Typically -70dBc Guaranteed Max - 50dBc
3 rd Harmonic Distortion	Typically -70dBc Guaranteed Max - 60dBc
>= 4 th Harmonic Distortion	Typically -85dBc Guaranteed Max - 70dBc
Environmental	
Operating Temperature	0°C + 60°C
Humidity	95 % non condensing
Power	115VAC or 230VAC 50/60Hz < 40W
Network Interface	
Interface	RJ45 - 10/100BaseT
Protocols	NTP (RFC 1305), Telnet (RFC 854), FTP(RFC 959), DHCP (RFC 2132), Time (RFC 867), Daytime (RFC 867), and SNMP (RFC 1157)
Console Port	
Interface	9 Way D type socket 115K Baud - 115200, N, 8, 1
Physical	
Size	All units except FTSU-200 (2U) 19" Rack 1U 1.75" (H) x 7.5" (D) x 17" (W) [4.4 cm(H) x 19 cm (D) x 43.2 cm (W)] Weight : 7.5 lb (3.4 Kg)
Humidity	95 % non condensing
Power	115VAC or 230VAC 50/60Hz < 40W



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