TY-TIMING-V3

- System timing and synchronization module
- PTP / IEEE 1588
- GPS, GLONASS
- IRIG
- PPS
- 8x DIO, 1x counter, 1x AUX

Module specifications

TY-TIMING-V3 specifications		
Synchronization input modes	PTP / IEEE 1588, GPS, IRIG, PPS (pulse per second)	
Features	1 programable frequency output (10 to 1 000 000 Hz)	
	1 advanced counter input	
	8 digital I/O	
PTP / IEEE 1588		
IP mode	Multicast	
Protocol	UDP / IPv4	
Delay mechanism	End to End	
IP address method	DHCP	
RJ-45 Ethernet	10 / 100 Mbit Ethernet connection; only for synchronization, no data transfer possible.	
Programmable correction limit	10 ns to 500 ms	
GPS specifications		
Supported GNSS signals	GPS / SBAS L1, GLONASS	
Number of channels	35	
PPS accuracy	100 ns	
Refresh rate	1 Hz, 5 Hz, 10 Hz	
Position accuracy (horizontal CEP) – Autonomous – Differential – Velocity	 1.5 m 1.0 m 0.1 m/s	
Velocity limit	500 m/s	
Input connector GPS	SMA for GPS antenna	
IRIG input specifications		
Supported codes	IRIG code A or B; AM or DC (A007, A127, B007, B127)	
Compatibility (AM code)	0.5 Vp-p to 10 Vp-p	
Ratio (AM)	3:1 ±10 %	
Compatibility (DC code)	DC level shift (edge detection); TTL / CMOS compatible	
	Low: <1.5 V	High: >3.5 V
Impedance	20 kΩ	
Isolation voltage	350 V_{DC}	

TY-TIMING-V3 specifications			
Connector		BNC	
IRIG output specifications			
Supported codes		IRIG code B, DC (B007)	
Digital I/O specifications			
Number of channels		8	
Compatibility (input)		CMOS/TTL	
		Low: <0.8 V	High: >2.0 V
Compatibility (output)		TTL, 20 mA	
Overvoltage protection – Input mode – Output mode		 ±30 V_{DC} -0.5 to +5.5 V; short circuit protected	
Connector		D-SUB-15 socket	
Counter specifications			
Number of channels		1 advanced counter or 3 digital inputs	
Counter modes	Event counting	Basic event counting, gated counting, up/down counting and encoder mode (X1, X2 and X4)	
	Waveform timing	Period, frequency, pulse width, duty cycle and edge separation	
	Sensor modes	Encoder (angle and linear), gear tooth with/without zero, gear tooth with missing/double teeth	
Input signal compatibility		CMOS/TTL	
Counter resolution		32-bit	
Counter time base		80 MHz	
Time base accuracy		Within HT2 system	Typ. 10 ppm; max. 50 ppm
		Within HT3 system	Typ. 2 ppm; max. 10 ppm
Maximum input frequency		10 MHz	
Overvoltage protection		±30 V_{DC}, 50 V_{PEAK} (for 100 ms)	
Sensor power supply		5 V (600 mA) and 12 V (600 mA)	
Connector		On same D-SUB-15 socket as Digital I/O	
AUX specifications			
Functionality		Camera trigger, trigger input/output, acquisition clock and programmable clock output	
Compatibility (input)		LVTTL	
Compatibility (output)		LVTTL, 10 mA	
Overvoltage protection		±20 V_{DC}	
Connector		SMB socket	
General specifications			
Typical power consumption		5 W	
Temperature range		0–50 °C	
Weight		Approx. 240 g	