

# TRION-TIMING-V3



## TRION-TIMING-V3

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



## Module specifications

TRION-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
Protocoll	UDP / IPv4; ETH
Delay Mechanism	End to End; Peer to Peer
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	1.5 m
– Differential	1.0 m
– Velocity	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
Compatibility (AM code)	0.5 Vp-p to 10 Vp-p
Ratio (AM)	3:1 ±10 %

Tab. 62: Module specifications

# TRION-TIMING-V3



Compatibility (DC code)	DC level shift (edge detection); TTL / CMOS compatible	
	Low: <1.5 V	High: >3.5 V
Impedance	20 k $\Omega$	
Isolation voltage	350 V <sub>DC</sub>	
Connector	BNC	
<b>IRIG output specifications</b>		
Supported codes	IRIG code B, DC	
<b>Digital I/O specifications</b>		
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	$\pm 30$ V <sub>DC</sub>	
– Output mode	-0.5 to +5.5 V; short circuit protected	
Connector	D-SUB-15 socket	
<b>Counter specifications</b>		
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 DEWE2 system	Typ. 10 ppm; max. 50 ppm
	Within DEWE3 system	Typ. 2 ppm; max. 10 ppm
Maximum input frequency	10 MHz	
Overvoltage protection	$\pm 30$ V <sub>DC</sub> , 50 V <sub>PEAK</sub> (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	
<b>AUX specifications</b>		
Functionality	Camera trigger, trigger input/output, acquisition clock and programmable clock output	
Compatibility (input)	LVTTTL	
Compatibility (output)	LVTTTL, 10 mA	
Overvoltage protection	$\pm 20$ V <sub>DC</sub>	
Connector	SMB socket	

Tab. 62: Module specifications