

TRM-1610M/1610S

16CH Mobile Network Video Recorder

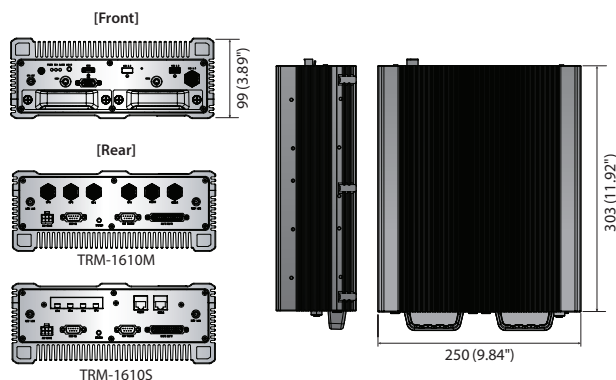


Key Features

- Up to 16CH 12megapixel supported
- H.265, H.264, MJPEG codec supported
- WiseStream support
- SUNAPI / ONVIF camera recording
- Max. 128Mbps recording
- Plug & play by 4 PoE / PoE+ ports
- M12 connector (TRM-1610M)
- 2 SATA (Front-swap)
 - Max. 2TB (HDD, Non-RAID mode)
 - Max. 4TB (SSD, Non-RAID mode)
- RAID 1 support

Dimensions

Unit : mm (inch)



Contents



Optional



	TRM-1610M	TRM-1610S
DISPLAY		
N/W Camera	Inputs / Resolution: Max. 16CH (4 PoE, M12) / CIF ~ 12MP	Max. 16CH (4 PoE, RJ-45) / CIF ~ 12MP
	Protocols: SUNAPI, ONVIF	
	Local Display: HDMI / VGA	
Live	Multi Screen Display: [Local monitor] 1 / 2V / 3V / 4 / 6 / 8 / 9 / 13 / 16 / Auto sequence, [Web] 1 / 4 / 9 / 16 / Auto sequence	
	Performance: [Local monitor] 12M (30fps), 8.3M (120fps), 1080p (480fps)	
PERFORMANCE		
Operating System	Embedded	Linux
	Compression: H.265, H.264, MJPEG, WiseStream (H.265, H.264)	
	Recording Bandwidth: Max. 128Mbps	
	Resolution: CIF ~ 12MP	
Recording	Mode: Manual, Schedule (Continuous / Event), Event (Pre / Post), Emergency	
	Retention: Retention per channel (1 ~ 400 days)	
	Event Trigger: Alarm input (16), Video loss, Camera event (Sensor, MD, Video analytics, Defocus), G-Sensor (3 Axis)	
	Event Action: E-mail, Alarm out, Buzzer, Monitor out	
	Playback Bandwidth: 32Mbps (16CH simultaneously)	
	User: Max. 4 users (Local 1, Remote 3)	
Search & Playback	Mode: Date & Time (Calendar) / Event log list / Text search / Smart search	
	Simultaneous Playback: Max. 16CH (Local monitor, CMS)	
	Resolution: CIF ~ 12MP	
	Fish-eye Dewarping: Web / CMS	
	Playback Control: Fast/Slow Forward/Backward, Move one step up/down	
	Default Built-in: 0TB ~ 4TB	
Storage	Internal HDD: 2 SATA (Front-swap) - Max. 2TB (HDD, Non-RAID mode) - Max. 4TB (SSD, Non-RAID mode)	
	RAID: RAID-1	
	File Backup: Exe (GUI), JPG / AVI (Excluding GPS information) (Network)	
Backup	Function: Multi channel (Upto 16CH) Play, Date-time / Title / GPS display	
	Type / Wifi Backup Performance: Auto (Wifi), Manual (HDD / SSD) / Max. 150Mbps (IEEE802.11ac)	
Sensor	Input / Output: 16 / 6	
Audio	Input / Compression: 16CH (Network) / G.711, G.726, AAC (16 / 48KHz)	
	Audio Communication: 2-way	

NETWORK		
Interface	M12 (Gigabit ethernet x 2)	RJ-45 (Gigabit ethernet x 2)
Protocol Support	TCP/IP, UDP/IP, RTP (UDP), RTP (TCP), RTSP, NTP, HTTP, DHCP (Server, Client), PPPoE, SMTP, ICMP, IGMP, ARP, DNS, DDNS, uPnP, HTTPS, SNMP, ONVIF (Profile-S), SUNAPI (Server, Client)	
DDNS	Hanwha DDNS	
Transmission Bandwidth	Max. 256Mbps	
Max. Remote Users	Search 3 / Live unicast 10 / Live multicast 20	
IP	IPv4	
Security	IP address filtering, User access log, 802.1x, Encryption	
Wireless	WIFI	Internal (802.11 n (2.4G) / ac (5G), Dual antenna (MIMO))
	3G/LTE	Support external 3G / LTE router (Ethernet)
Language	English, French, German, Italian, Spanish, Russian, Turkish, Polish, Dutch, Swedish, Czech, Portuguese, Danish, Rumanian, Serbian, Croatian, Hungarian, Greek, Norwegian, Finnish, Korean, Chinese, Japanese, Thai	
OS	Window 7, 8, 10, Mac OS X (10.8 or above)	
Web Browser	MS IE, Google Chrome, Mac Safari	
Viewer	Type	SSM Transportation, WebViewer, Wisenet Mobile Viewer
Software	CMS Support	Support SDK / CGI (SUNAPI) for integration to 3rd party VMS

FUNCTIONS		
Register	Auto mode, Manual mode	
Camera Setup	Setup Items	IP address, Add profile edit, Bitrate, Compression, Camera MD setup, Camera video setup (Simple focus, Brightness / Contrast, Flip / Mirror, IRIS, WDR, D&N, SSNR, Shutter, SSDR, DLS), Fisheye dewarping mode, Hallway View setup, Camera webpage, WiseStream Off / On
Camera Control	PoE Power Control	Monitor PoE/PoE+ power consumption, Off / On control for each PoE/PoE+ camera, Remote reset for each PoE/PoE+ camera
	Time Sync.	NVR time protocol for PoE/PoE+ camera (Time sync based on NVR time), GPS time sync
PTZ	Control / Preset	Via GUI, WebViewer / 300 Presets
Smart Phone	Support Model / Protocol Support	I-Phone, Android / RTP, RTSP, HTTP, CGI (SUNAPI)
	Control	Live (16CH) : Multi-profile support, Playback (1CH)
	Max. Remote Users	Search 3 / Live unicast 10 / Live multicast 20
System Control		Mouse, Web

INDICATOR / INTERFACE		
Indicator	LED (Status indicator) 3EA: Power 1, Alarm 1, Record 1	
Power Switch / Audio	1ea / Out (1ea, Line)	
Front	HDMI / VGA	2ea (Support Live screen upto 16 div. mode, Clone)
	USB / GPS	HDMI: Upto 4K (3840 x 2160), VGA: Max. 1080p
	HDD Key Lock	3ea (M12 x 1, USB-A x 2) / 1ea (SMA, F)
		2ea
Connections	Ethernet	LAN / WAN: 2ea (1Gbps, M12) PoE Camera Input: 4ea (100Mbps, M12) LAN / WAN: 2ea (1Gbps, RJ-45), PoE Camera input: 4ea (100Mbps, RJ-45)
	Control I/O	DB15 1ea (External control box)
	Alarm	(1) Status LED (2) G-Sensor (3 Axis) (3) Emergency recording button (4) Power Switch (5) Audio out
	Serial / WiFi	DB25 1ea (1) In (16ea) (2) Out (6ea)
	Reset / Power Cord	Reserved / 2ea (RP-SMA, F) Switch 1ea / 6pin connector 1ea

SYSTEM		
Power Management	Shutdown Delay	Max. 72Hrs (User selectable), Support CGI shutdown
	Startup Delay	0sec (Default) ~ 10min (User selectable)
Log	Log List	Max. 20,000 (System log, Event log each)

GENERAL		
Electrical	Input Voltage / Current	9 ~ 36V DC (Battery power detection & Low power limit setup)
	Power Consumption / PoE Budget	Low temperature in use: Max. 93W, Room temperature: Max. 67W / Max. 32W
Environmental	Storage Temperature / Humidity	-25°C ~ +55°C (-13°F ~ +131°F) : HDD installed -40°C ~ +70°C (-40°F ~ +158°F) : Industrial SSD installed / 20% ~ 85% RH
Mechanical	Color / Material	Black / Aluminium
	Dimensions (WxHxD)	250 x 99 x 303mm (9.84" x 3.89" x 11.92")
	Weight	7.35Kg (16.2 lb)

STANDARD APPROVAL		
General	CE, FCC, UL	
Special	EN-50155 (Rail shock / Vib), EN-50121-4 (Railway EMC)	

Control Box

INDICATOR / INTERFACE		
Top	Indicator	LED (Status indicator) 6ea: Power 1, Alarm 1, Record 1, GPS 1, RAID 1, HDD Error 1
	Emergency Button	1ea
Connections	Audio / Power Switch	Out 1ea (RCA, Line) / 1ea
	Main I/O	1ea (DB9)
SYSTEM		
Mechanical	Color / Material	Black / Aluminium
	Dimensions (WxHxD)	Approx. 118 x 29.2 x 70mm (4.64" x 1.15" x 2.75")
	Weight	200 g (0.44 lb)