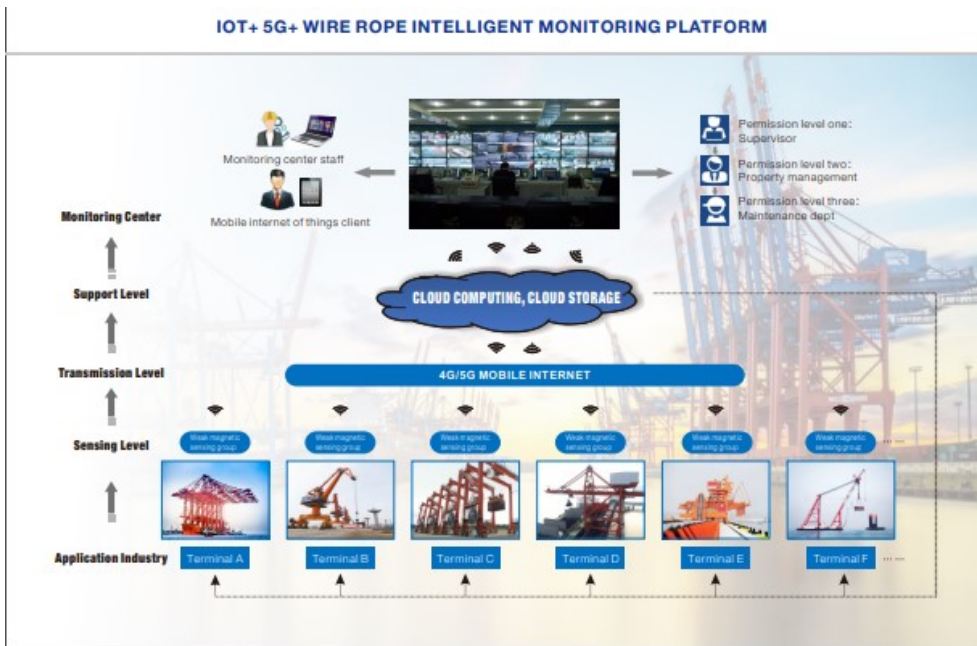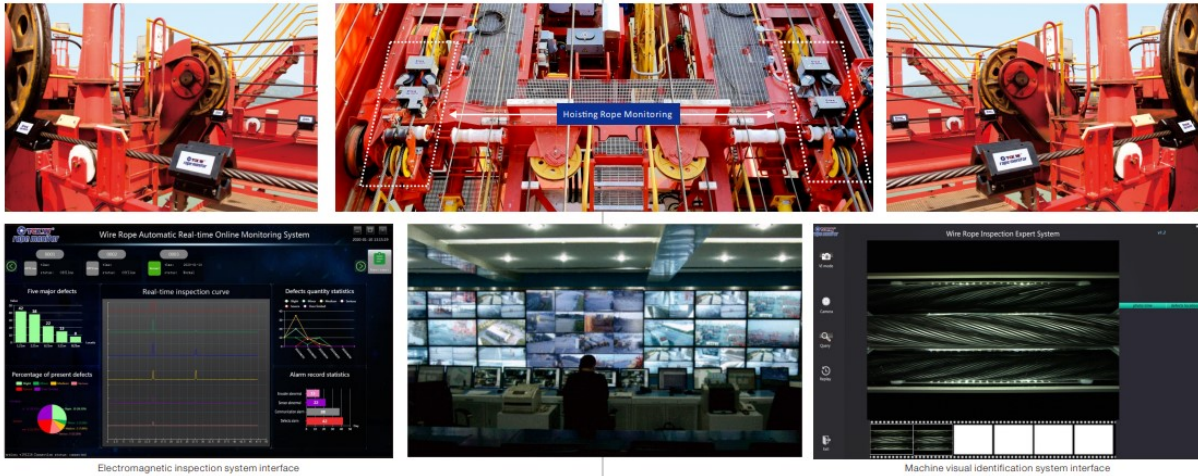# Online Automatic Wire Rope Inspection System

CRANE

Electromagnetic inspection system interface

Machine visual identification system interface

Technical Parameters

(1)24hX365d online real-time automatic monitoring

(2)Inspection range of wire rope: Φ16-60mm;

(3) Monitoring speed: 0-10m/s;

(4) Pass-through capability： non-influenced with warp, grease or deformation

(5) Air gap between sensor and rope: 10~30mm;

(6) Swing threshold of rope tested: <10mm

(7) Sensor sensitivity: 1.5V/mT;

(8) Signal-to-noise ratio: S/N>85dB;

(9) Max. sampling rate: 2048times/m;

(10) Working voltage: AC220V／127V±10%/50/60 Hz;

(11) System communication network: wireless, WIFI, wired industrial Ethernet.

(12) Docking communication protocol: TCP/IP, modbus;

(13) Ingress protection: IP67;

(14) Working environment: -20℃~+60℃/RH 95%;

(15) Continuous working hours: ≥168h;

(16) Service life of equipment: ≥10 years;

DRILLING

Technical Parameters

(1) Inspection range of wire rope: Φ16-80mm;

(2) LMA inspection uncertainty: <±1%;

(3) Flaw positioning accuracy: ≥99%;

(4) Inspection speed: 0-6m/s;

(5) Monitoring speed: 0-20m/s;

(6) Passing-through capability: Non-interference with warp, grease or deformation;

(7) Clearance between sensor and wire rope: 10-30mm;

(8) Max. amplitude of wire rope: <10mm;

(9) Sensor sensitivity: 1.5V/mT;

(10) Signal-to-noise ratio: S/N>85dB;

(11) Max. sampling rate: 2048times/m;

(12) Working voltage: AC220V±10%/50/60 Hz;

(13) Communication network: WIFI or industrial Ethernet;

(14) Docking communication protocol: TCP/IP, Modbus;
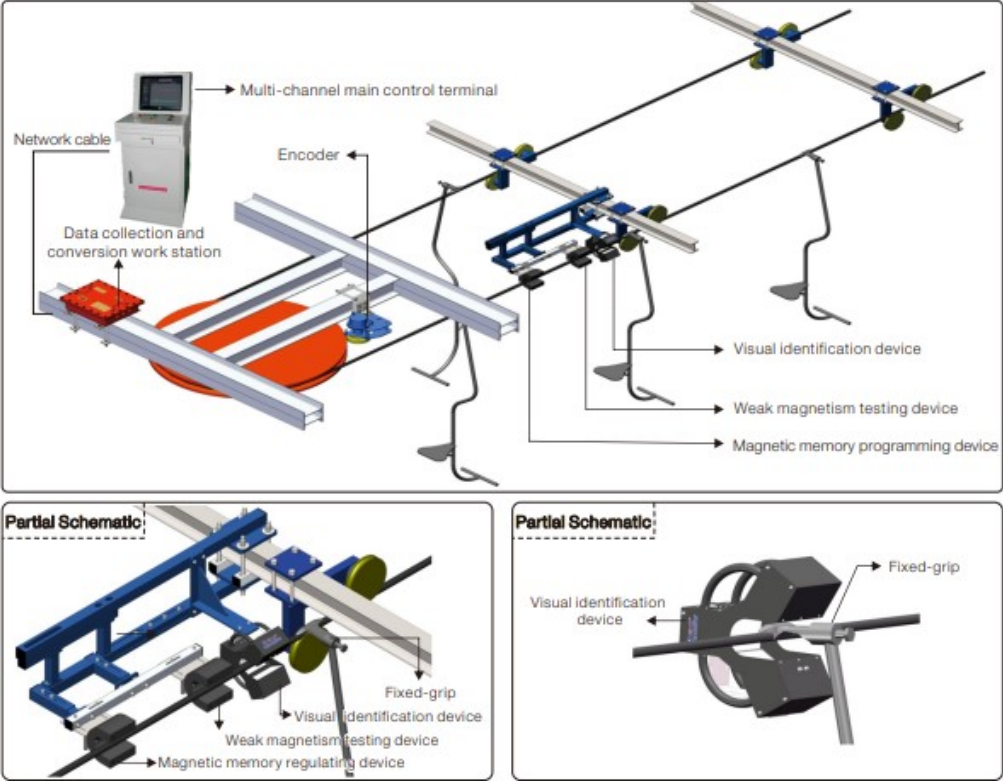
(15) Ingress protection: IP67;

(16) Working environment: -40℃-+60℃/RH 95%;

(17) Continuous working hours: ≥168h;
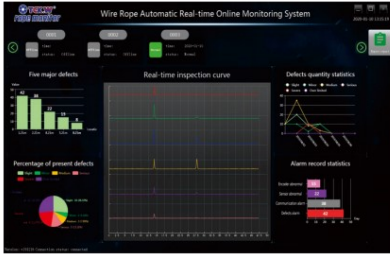
(18) Service life of equipment: ≥10 years;

ROPEWAY

> Real-time monitoring safety state of rope on both sides of fixed grip, monitoring entire endless rope, no blind area.
> Accurately inspect all kinds of potential safety hazard of wire rope such as broken wire, abrasion, corrosion, fatigue, deformation, dia. reduction etc.

Multi-channel main control terminal

Network cable

Encoder

Data collection and conversion work station

Visual identification device

Weak magnetism testing device

Magnetic memory programming device

Partial Schematic

Fixed-grip

Visual identification device

Weak magnetism testing device

Magnetic memory regulating device

Partial Schematic

Visual identification device

Fixed-grip

Mellau Rope Way in Austria

Ba Daling Rope Way in Beijing China

Sentosa Rope Way in Singapore

North Peak Cableway, Huashan Mountain, China

Electromagnetic inspection system interface

Machine visual identification system interface

Technical Parameters

Main Function of Device:

- Wire rope whole service life under safety control
- Synchronized inspection during high-speed operation
- Replacing Manual Inspection with Machine Visual Identification Inspection
- Integration of MRT&VI System
- Internet + expert inspection with remote diagnosis

Other Technical Parameters:

- Rope speed for inspection: 0-4 m / s
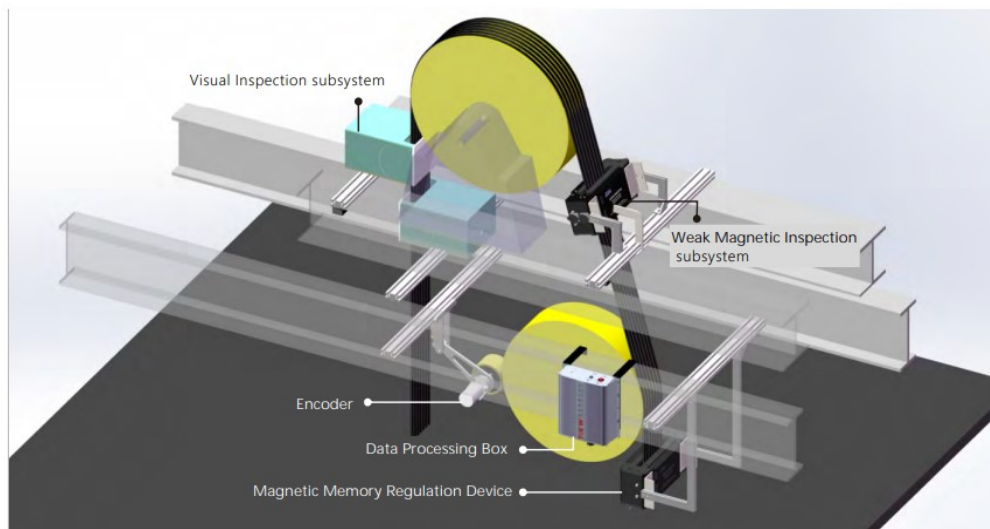 Rope speed for monitoring: 0-15 m / s

- Wire rope diameter range: Φ26-76mm
- Sensor working sensitivity: ≥ 1.5 V/mT
- MRT maximum sampling frequency response: 2048 times/m
- Machine visual identification sampling frequency response: >20 times/s
- System working voltage: AC220v±10%\50Hz/60Hz
- System rated power: 300W
- Wire rope oscillating range: < 10 mm
- Required space for device installation :< Φ175mm x1200mm
- Sensor working temperature: -20℃-55℃ ,Humidity: ≤95%RH
- Ingress protection: IP54

ELEVATOR

Elevator Wire Rope Intelligent Inspection Expert System

Technical Parameters

Mode	TCK.W -DT813	TCK.W -AI-DT624-220	TCK.W -AI-DT1622-130
Inspection range of wire rope	8-13mm	6-24mm	8-16mm
Width of the ropes	Single Rope	<220mm	<130mm
Dimension(mm)	300*140*70	350*230*150	252*207*125
Inspection speed	0-3m/s		
Amplitude of wire rope	<5mm		
Sensitivity of sensor	1.5V/mT		
Electric magnetic sensing signal-to-noise ratio	S/N>85dB		
Operating voltage	DC5V		
Operating current	500mA		
Continuous operation hours of battery	≥8h		
Ingress protection	IP53		
Working enviroment of sensor	Temperature: -20℃~55℃ Humidity: ≤95%RH		

Visual Inspection subsystem

Weak Magnetic Inspection subsystem

Encoder

Data Processing Box

Magnetic Memory Regulation Device

Elevator Traction Belt Broken Cord Monitoring Device

Technical Parameters

-Specification/model: TCK.W-GDAJ model
-Application traction belt width: 30-60mm
-Applicable steel core number: 10-30 pieces
-Steel core diameter range: ≤2mm
-Traction belt number under synchronized monitoring: 1-5 pieces
-Device working environment: Temperature -10℃-55℃
-Humidity: ≤95%RH
-Broken core detectability: 100%
-Device power supply: DC24V
-Power: ≤15W
-Alarm mode: Sound and light alarm
-Technical expansion: Can be customized as per client's requirement

Broken core