

A Member of Open Alliance

CHANGEN® 誠臻®

A Chinese Company from 2012



Integrity is our insistence! Perfection is our pursuit!

*The pictures in this booklet maybe a little different with the product, please contact us for the latest information.



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2024 COMPANY PRODUCT ALBUM

High-End EMC Lab Supplier

ABOUT US

The privately owned company was established in 2012 in China. It develops, produces, and promotes a wide range of test auxiliaries for EMC labs.

Since then, “technology & Innovation” became our core value and mission.

Every product was based on our own expertise and has great originality. We are already the market leader in Great China. some European and US Company also approached us and recognized us as “trustworthy Partner”. The products portfolio is expanding day in and day out. and they could probably cover lots of areas in the EMC labs. From BUS/audio/video fiber opc isolation system, to light strength monitor and HD monitoring system, etc. \ more and more subjective judgments are proved by objective data from CHANGEN’ s products.

Customized service is also our highlight in the Trend of Industry 4.0 for EMC labs. Most of the time, the technical content of customized device stands for the technical level of the owner.

CHANGEN always helps its customers to increase the incoming elegantly.

For more info, please visit us at www.chan-gen.com.

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Coming soon!



OPT-A2B28-A1 A2B Optic Transceiver

// Function

- Support A2B signal transmission!
- Specialized for strict vehicle electronics EMC testing!
- Built-in ESD protector can resist up to 15kV!
- Radiation susceptibility up to CW 300V/m! ①
- Radiation susceptibility up to radar wave 600V/m! ①
- Resistance to 200mA BCI!
- Self-interference is 6dB lower than CISPR 25 Class 5 limits! ①

* Note 1: The data is measured based on the Four-Optic Transceiver method of CHANGEN, and the relevant test conditions are subject to the description of CHANGEN.

// Specification

Fiber	Single Core,LC,single mode 9/125um
Connector	HSD
Built-in battery	Li-ion battery,Type-C charging port
Continuous work time	>10 hours(From fully charging)
Battery capacity indicator	2 levels indicator
Temperature	0°C to 70°C
Warranty	Optic transceiver 36 months,12 months(Accessories mean optic fiber, convert or charger,instrument container)
Dimensions	128mm(L) X 80mm(W) X 44mm(H)
Origin	P.R.China

Coming soon!



OPT-MULTI-A8 Eight-channel high-precision current and voltage signal optic transceiver

// Function

- The latest eight-channel high precision & high sampling speed measurement optic transceiver!
- Can measure the voltage, current②, resistance, and temperature② signals!
- Best solution for the EMC test monitoring of the domain controller!
- Sampling speed of up to 1ms!
- Voltage measurement accuracy up to $\pm 10 \mu\text{V}$!
- All of the parameters are measurable!
- Each channel has equipped with ESD protectors of up to 30kV!
- Resistance to 200mA BCI!
- Radiation susceptibility up to CW 300V/m! ①
- Radiation susceptibility up to radar wave 600V/m! ①
- Self-interference is 6dB lower than CISPR 25 Class 5 limits! ①

* Note 1: The data is measured based on the Four-Optic Transceiver method of CHANGEN, and the relevant test conditions are subject to the description of CHANGEN.

* Note 2: This function needs to be realized by purchasing accessories separately from CHANGEN.

// Specification

Sampling channel	8 Channel
Sampling model type	Voltage, current, resistance, and temperature
Voltage measurement accuracy	Up to $\pm 10 \mu\text{V}$
Resistance measurement accuracy	Up to 0.1 ohm
The thermocouple fit to temperature measurements	R/S/B/K/E/J/T/N/C
Impetive temperature sensor	PT100 (3 line / 4 line)
Fiber	Single Core,LC,single mode 9/125um
Connector	Each channel corresponds to one D-sub 9 female seat interface (see the manual for definition of Pin)
ESD Protector	30kV
Power supply	AC 100V-240V
Temperature	0°C-70°C
Warranty	Optic transceiver 36 months,12 months(Accessories mean optic fiber, convert or charger,instrument container)
Dimensions	192mm(L) X 150mm(W) X 44mm(H)
Origin	P.R.China

To be No.1!



OPT-SENT1-A1 SENT Optic Transceiver

OPTIC TRANSCEIVER Special for EMC lab

// Function

- Newest SENT optic transceiver!
- Built-in and switchable ESD protector can resist up to 30kV!
- Radiation susceptibility up to CW 300V/m!
- Radiation susceptibility up to radar wave 600V/m!
- Support external power supply!
- Intuitive battery power indicator!
- Resistance to 200mA BCI!
- Self-interference is 6dB lower than CISPR 25 Class 5 limits!

// Specification

Max speed	33kbps (fully SAE J2716 compliant)
Fiber	Single Core, ST, multi mode 62.5/125μm
BUS connector	D-Sub 9 Female (Pin3 to GND / Pin7 to SENT)
ESD Protector	Selectable toggle switch between 30kV / no protection
Built-in battery	Li-ion battery
Continuous work time	>24 hours (From fully charging)
Battery capacity indicator	2 levels indicator
Temperature	0°C to 70°C
Warranty	Optic transceiver 36 months, 12 months (Accessories mean optic fiber, convert or charger, instrument container)
Dimensions	128mm(L) X 80mm(W) X 44mm(H)
Origin	P.R.China

OPT-LIN22-B1 20kbps LIN Optic Transceiver



// Function

- Newest LIN BUS Optic transceiver!
- Built-in and switchable ESD protector can resist up to 30kV!
- Radiation susceptibility up to CW 300V/m! ①
- Radiation susceptibility up to radar wave 600V/m! ①
- Support external power supply!
- Intuitive battery power indicator!
- K-line compatible!
- Resistance to 200mA BCI!
- Self-interference is 6dB lower than CISPR 25 Class 5 limits! ①

* Note 1: The data is measured based on the Four-Optic Transceiver method of CHANGEN, and the relevant test conditions are subject to the description of CHANGEN.

// Specification

Max speed	20kbps (fully LIN 1.0, LIN 1.1, LIN 1.2, LIN 1.3, LIN 2.0, LIN 2.1, LIN 2.2, LIN 2.2A and SAE J2602 compliant)
Fiber	Single Core, Lc, single mode 9/125um
Connector	D-Sub 9 Female (Pin3 to GND / Pin7 to LIN)
Mode Selection	Selectable toggle switch between Master / Slave
ESD Protector	Selectable toggle switch between 30kV / no protection
Built-in battery	Li-ion battery
Continuous work time	>24 hours (From fully charging)
Battery capacity indicator	2 levels indicator
Temperature	0°C to 70°C
Warranty	Optic transceiver 36 months, 12 months (Accessories mean optic fiber, convert or charger, instrument container)
Dimensions	128mm(L) X 80mm(W) X 44mm(H)
Origin	P.R.China



OPT-CCXPI-B1 CXPI Optic Transceiver

// Function

- Newest CXPI optic transceiver!
- Compatible with standard JASO CXPI and SAE CXPI!
- 2.4kbps to 20kbps speed!
- Built-in and switchable ESD protector can resist up to 30kV!
- Resistance to 200mA BCI!
- Radiation susceptibility up to CW 300V/m! ①
- Radiation susceptibility up to radar wave 600V/m! ①
- Self-interference is 6dB lower than CISPR 25 Class 5 limits! ①

* Note 1: The data is measured based on the Four-Optic Transceiver method of CHANGEN, and the relevant test conditions are subject to the description of CHANGEN.

// Specification

Speed	2.4kbps to 20kbps
Fiber	Single Core, ST, multi mode 62.5/125um
BUS connector	D-Sub 9 Female (Pin3 to GND / Pin7 to CXPI BUS)
ESD Protector	Selectable via side dip switch between 30kV / no protection
Built-in battery	Li-ion battery
Continuous work time	>24 hours (From fully charging)
Battery capacity indicator	4 levels indicator
Temperature	0°C to 70°C
Warranty	Optic transceiver: 36 months Accessories: 12 months (Accessories mean optic fiber, convertor, charger, instrument container)
Dimensions	128mm(L) X 80 mm(W) X 44 mm(H)
Origin	P.R. China



OPT-CANLS-A1 LS CAN BUS Optic Transceiver

// Function

- Newest LS CAN BUS optic transceiver!
- Adjustable capacitors for CAN_H / CAN_L to GND!
- Built-in and switchable ESD protector can resist up to 30kV!
- Resistance to 200mA BCI!
- Radiation susceptibility up to CW 300V/m! ①
- Radiation susceptibility up to radar wave 600V/m! ①
- Intuitive battery power indicator!
- Self-interference is 6dB lower than CISPR 25 Class 5 limits! ①

* Note 1: The data is measured based on the Four-Optic Transceiver method of CHANGEN, and the relevant test conditions are subject to the description of CHANGEN.

// Specification

Max speed	125kbps (fully ISO 11898-3:2006 compliant)
Fiber	Single Core, ST, multi mode 62.5/125μm
BUS connector	D-Sub 9 Female (Pin2 to CAN_L / Pin7 to CAN_H)
BUS terminal resistance (RTH / RTL)	Selectable via side dip switch from 560Ω/1kΩ/5.1kΩ/3.3kΩ/2.7kΩ/2kΩ/∞
CAN_H/CAN_L ground capacitor	Selectable via side dip switch from 110pF/220pF/330pF/∞
ESD Protector	Selectable via side dip switch between 30kV / no protection
Built-in battery	Li-ion battery
Continuous work time	>24 hours (From fully charging)
Battery capacity indicator	4 levels indicator
Temperature	0°C to 70°C
Warranty	Optic transceiver: 36 months Accessories: 12 months (Accessories mean optic fiber, convertor, charger, instrument container)
Dimensions	128mm(L) × 80 mm(W) × 44 mm(H)
Origin	P.R. China



OPT-CANHS-A1 HS CAN BUS Optic Transceiver

// Function

- Newest HS CAN BUS optic transceiver!
- Built-in ESD protector can resist up to 30kV!
- Radiation susceptibility up to CW 300V/m! ①
- Support external power supply!
- Self-interference is 6dB lower than CISPR 25 Class 5 limits! ①
- Adjustable capacitors for CAN_H / CAN_L to GND!
- Resistance to 200mA BCI!
- Radiation susceptibility up to radar wave 600V/m! ①
- Intuitive battery power indicator!

* Note 1: The data is measured based on the Four-Optic Transceiver method of CHANGEN, and the relevant test conditions are subject to the description of CHANGEN.

// Specification

Max speed	1Mbps (fully ISO 11898-2:2016 compliant)
Fiber	Single Core, ST, multi mode 62.5/125μm
BUS connector	D-Sub 9 Female (Pin2 to CAN_L / Pin7 to CAN_H)
BUS terminal resistance (RTH / RTL)	Selectable via side dip switch from 60Ω/120Ω/∞
CAN_H/CAN_L ground capacitor	Selectable via side dip switch from 22pF/47pF/220pF/470pF/∞
ESD Protector	30kV
Built-in battery	Li-ion battery
Continuous work time	>24 hours (From fully charging)
Battery capacity indicator	4 levels indicator
Temperature	0°C to 70°C
Warranty	Optic transceiver: 36 months Accessories: 12 months (Accessories mean optic fiber, convertor, charger, instrument container)
Dimensions	128mm(L) × 80 mm(W) × 44 mm(H)
Origin	P.R. China



OPT-CANFD-B1 12Mbps CANFD Optic Transceiver

// Function

- Newest CAN FD BUS optic transceiver!
- Adjustable capacitors for CAN_H / CAN_L to GND!
- Built-in ESD protector can resist up to 30kV!
- Radiation susceptibility up to CW 300V/m! ①
- Radiation susceptibility up to radar wave 600V/m! ①
- Support external power supply!
- Intuitive battery power indicator!
- Self-interference is 6dB lower than CISPR 25 Class 5 limits! ①

* Note 1: The data is measured based on the Four-Optic Transceiver method of CHANGEN, and the relevant test conditions are subject to the description of CHANGEN.

// Specification

Max speed	12Mbps (fully ISO 11898-2:2016 compliant)
Fiber	Single Core, ST, multi mode 62.5/125μm
BUS connector	D-Sub 9 Female (Pin2 to CAN_L / Pin7 to CAN_H)
BUS terminal resistance	Selectable toggle switch from 60Ω/120Ω/∞
CAN_H/CAN_L ground capacitor	Selectable toggle switch from 22pF/470pF/∞
ESD Protector	30kV
Built-in battery	Li-ion battery, Type-C charging port
Continuous work time	>72 hours (From fully charging)
Battery capacity indicator	2 levels indicator
Temperature	0°C to 70°C
Warranty	Optic transceiver: 36 months Accessories: 12 months (Accessories mean optic fiber, convertor, charger, instrument container)
Dimensions	128mm(L) × 80 mm(W) × 44 mm(H)
Origin	P.R. China



OPT-CANHS-OBDOBD II Connector

// Function

- Newest optic transceiver with OBDII connector!
- Built-in 4 High Speed CAN channels!
- Support FORD OBDII Definition!
- Radiation susceptibility up to CW 300V/m!
- Fully OBDII specification compliant!
- Radiation susceptibility up to radar wave 600V/m!
- Share power supply from OBDII!
- Self-interference is 6dB lower than CISPR 25 Class 5 limits!

// Specification

Channels	4
BUS type for each channel	High speed CAN (fully ISO 11898-2:2016 compliant)
Max speed	1Mbps
Fiber	Single Core, ST, multi mode 62.5/125μm
Fiber connectors	4
OBDII	16pin, plug
BUS terminal resistance	120Ω
CAN_H / CAN_L ground capacitor	470pF
OBDII power supply	DC12V-42V
Temperature	0°C to 70°C
Warranty	Optic transceiver: 36 months Accessories: 12 months (Accessories mean optic fiber, convertor, charger, instrument container)
Dimensions	190mm(L) × 60 mm(W) × 22 mm(H)
Origin	P.R. China



OPT-FLEXR-A1 FlexRay Optic Transceiver

// Function

- Newest FlexRay BUS optic transceiver!
- Built-in ESD protector can resist up to 30kV!
- Resistance to 200mA BCI!
- Radiation susceptibility up to CW 300V/m! ①
- Radiation susceptibility up to radar wave 600V/m! ①
- Support external power supply!
- Intuitive battery power indicator!
- Self-interference is 6dB lower than CISPR 25 Class 5 limits! ①

* Note 1: The data is measured based on the Four-Optic Transceiver method of CHANGEN, and the relevant test conditions are subject to the description of CHANGEN.

// Specification

Max speed	10Mbps (fully ISO 17458 compliant)
Fiber	Single Core, ST, multi mode 62.5/125μm
BUS connector	D-Sub 9 Female (Pin2 to BM / Pin7 to BP)
BUS Terminal Resistance (RTH / RTL)	Selectable toggle switch from 90Ω/2.6kΩ
ESD Protector	30kV
Built-in battery	Li-ion battery
Continuous work time	>24 hours(From fully charging)
Battery capacity indicator	2 levels indicator
Temperature	0°C to 70°C
Warranty	Optic transceiver: 36 months Accessories: 12 months (Accessories mean optic fiber, convertor, charger, instrument container)
Dimensions	128mm(L) × 80 mm(W) × 44 mm(H)
Origin	P.R. China



OPT-ETN1k-A1 10/100/1000Mbps IT Ethernet Optic Transceiver

// Function

- Newest IT Ethernet optic transceiver!
- Built-in ESD protector can resist up to 30kV!
- Resistance to 200mA BCI!
- Radiation susceptibility up to CW 300V/m! ①
- Radiation susceptibility up to radar wave 600V/m! ①
- Support 10Mbps/100Mbps/1000Mbps self-adaptive!
- Intuitive battery power indicator!
- Self-interference is 6dB lower than CISPR 25 Class 5 limits! ①

* Note 1: The data is measured based on the Four-Optic Transceiver method of CHANGEN, and the relevant test conditions are subject to the description of CHANGEN.

// Specification

Max speed	10Mbps/100Mbps/1000Mbps self-adaptive
Fiber	Single Core, LC, single mode 9/125μm
Ethernet connector	Rj45
ESD Protector	30kV
Built-in battery	Li-ion battery
Continuous work time	>12 hours(From fully charging)
Battery capacity indicator	2 levels indicator
Temperature	0°C to 70°C
Warranty	Optic transceiver: 36 months Accessories: 12 months (Accessories mean optic fiber, convertor, charger, instrument container)
Dimension	128mm(L) × 80 mm(W) × 44 mm(H)
Origin	P.R. China

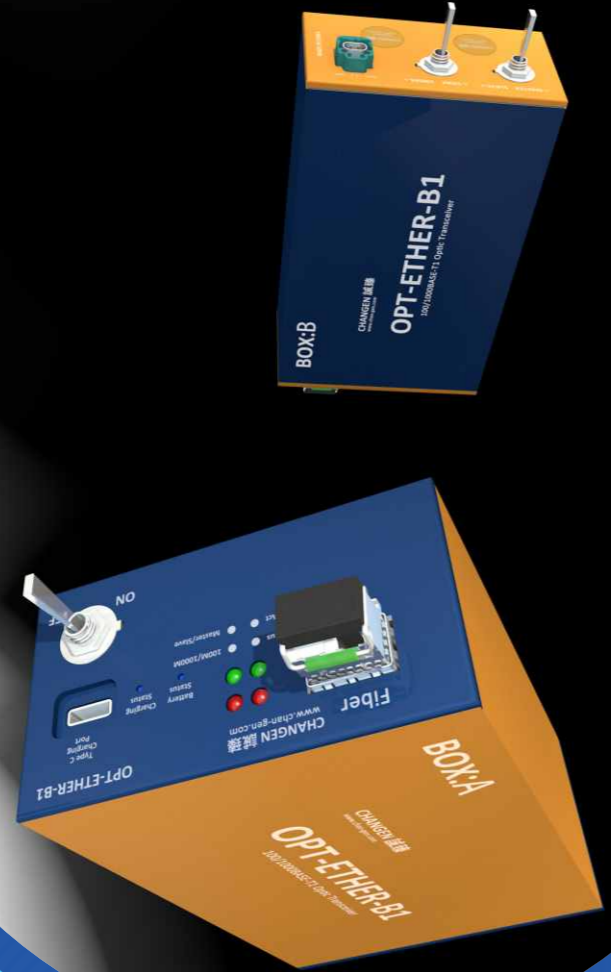
OPT-ETHER-B1

100/1000Mbps

Vehicle

Ethernet

Optic Transceiver



// Function

- Newest vehicle Ethernet optic transceiver!
- 100Mbps/1000Mbps Selectable via one switch!
- Master / Slave selectable via one switch!
- Built-in ESD protector can resist up to 30kV!
- Radiation susceptibility up to CW 300V/m! ①
- Radiation susceptibility up to radar wave 600V/m! ①
- Intuitive battery power indicator!
- Support pass-through between IT Ethernet and vehicle Ethernet! ②
- Self-interference is 6dB lower than CISPR 25 Class 5 limits! ①

* Note 1: The data is measured based on the Four-Optic Transceiver method of CHANGEN, and the relevant test conditions are subject to the description of CHANGEN.

* Note 2: Please purchase additional accessories from CHANGEN.

// Specification

Max speed	100Mbps/1000Mbps can be set
Working mode	Master / Slave
Pass-through	Support IT Ethernet <-> vehicle Ethernet
Wireless standard	IEEE 802.3bw(100BASE-T1), IEEE 802.3bp(1000BASE-T1)
Chip Compatible test	Broad Reach (100Mbps/1000Mbps) Marvel I(100Mbps/1000Mbps) NXP (100Mbps) Realtek (100Mbps/1000Mbps)
Fiber	Single Core, LC, single mode 9/125μm
Connector	E6S20A-40MT5-Z(H-MTD)(Pin1:Data+/Pin2:Data-)
ESD Protector	30kV
Built-in battery	Li-ion battery
Continuous work time	>12 hours(From fully charging)
Battery capacity indicator	2 levels indicator
Temperature	0°C to 70°C
Warranty	Optic transceiver: 36 months Accessories: 12 months (Accessories mean optic fiber, convertor, charger, instrument container)
Dimension	128mm(L) × 80 mm(W) × 44 mm(H)
Origin	P.R. China

OPT-ETNXG-A1

2.5G/5G/10G

IT Ethernet

Optic Transceiver



// Function

- Newest 10G IT Ethernet Optic Transceiver!
- 2.5G/5G/10G mode are supported!
- 10M/100M/1000M mode are compatible!
- Radiation susceptibility up to CW 300V/m! ①
- Radiation susceptibility up to radar wave 600V/m! ①
- Built-in ESD protector can resist up to 30kV!
- Resistance to 200mA BCI!
- Compliant with IEEE 802.3bz(2.5GBASE-T & 5GBASE-T) and IEEE 802.3an (10GBASE-T)!
- Self-interference is 6dB lower than CISPR 25 Class 5 limits! ①

* Note 1: The data is measured based on the Four-Optic Transceiver method of CHANGEN, and the relevant test conditions are subject to the description of CHANGEN.

// Specification

Transmission speed	10M/100M/1G/2.5G/5G/10Gbps (Auto-Negotiation)
Fiber	Single Core, LC, single mode 9/125μm
Ethernet connector	RJ45
ESD Protector	30kV
Built-in battery	Li-ion battery
Continuous work time	>6 hours(From fully charging)
Battery capacity indicator	2 levels indicator
Temperature	0°C to 70°C
Warranty	Optic transceiver: 36 months Accessories: 12 months (Accessories mean optic fiber, convertor, charger, instrument container)
Dimension	128mm(L) × 80 mm(W) × 44 mm(H)
Origin	P.R. China



OPT-ETHXG-A1 2.5G/5G/10G Automotive Ethernet Optic Transceiver

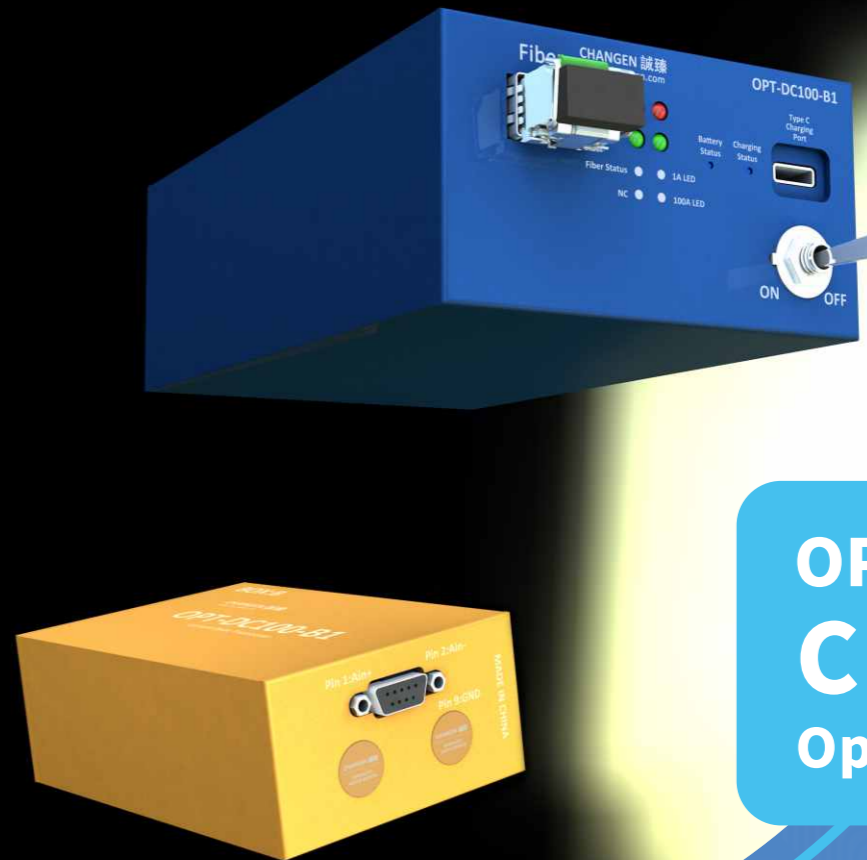
// Function

- Newest 2.5G, 5G and 10G Automotive Ethernet optic transceiver!
- Compatible with standard IEEE 802.3ch 2.5G/5G/10GBASE-T1!
- Master/Slave selectable via one switch!
- Built-in ESD protector can resist up to 30kV!
- Resistance to 200mA BCI!
- Radiation susceptibility up to CW 300V/m! ①
- Radiation susceptibility up to radar wave 600V/m! ①
- Support pass-through between IT Ethernet and vehicle Ethernet!
- Self-interference is 6dB lower than CISPR 25 Class 5 limits! ①

* Note 1: The data is measured based on the Four-Optic Transceiver method of CHANGEN, and the relevant test conditions are subject to the description of CHANGEN.

// Specification

Transmission speed	2.5G/5G/10Gbps
Working mode	Master / Slave
Pass-through	Supported, IT Ethernet(Tx)<->Automotive Ethernet(T1)
Fiber	Single Core,LC,single mode 9/125μm
Connector	E6S20A-40MT5-Z(H-MTD)(Pin1:Data+/Pin2:Data-) (optional A-ETH-Type Z)
ESD Protector	30kV
Built-in battery	Li-ion battery
Continuous work time	>6 hours(From fully charging)
Battery capacity indicator	2 levels indicator
Temperature	0°C to 70°C
Warranty	Optic transceiver: 36 months Accessories: 12 months (Accessories mean optic fiber, convertor, charger, instrument container)
Dimension	128mm(L) × 80 mm(W) × 44 mm(H)
Origin	P.R. China



OPT-DC100-B1 Current Optic Transceiver

// Function

- Max Sampling rate up to 16kHz! ①
- High precision (24 bits)!
- Current monitoring range 10uA~100A (could be customized)!
- Current values could be displayed on built-in LCD, and recorded by PC! ②
- Current detectors could be recognized by device automatically!
- Range: 10μA to 1A / 100mA to 100A (could be customized)!
- Resistance to 200mA BCI!
- Radiation susceptibility up to CW 300V/m!
- Radiation susceptibility up to radar wave 600V/m!
- Self-interference is 6dB lower than CISPR 25 Class 5 limits!

*Note 1: Default sampling speed is 1kHz. 16kHz should be required in the order without extra charge.

*Note 2: Recording software is optional and could be ordered.

// Specification

Current Range	10μA to 1A / 100mA to 100A (could be customized)
Fiber	Single Core,LC,single mode 9/125μm
Detector Connector	D-Sub 9, Female
Built-in battery	Li-ion battery, Type-C charging port
Continuous work time	>10 hours(From fully charging)
Battery capacity indicator	2 levels indicator
Temperature	0°C to 70°C
Warranty	Optic transceiver: 36 months Accessories: 12 months (Accessories mean optic fiber, convertor, charger, instrument container)
Dimension	192mm(L) × 80 mm(W) × 44 mm(H)
Origin	P.R. China



CON-ETHER-A1 TX to T1 Media Converter

// Function

- CON-ETHER-A1 is a media converter that connects ethernet for vehicle and Computer.
- Via computer, CON-ETHER-A1 can be used for testing, monitoring, upgrading, fault diagnosis, etc.
- CON-ETHER-A1 can exchange the data between 100Base-T1 and 100Base-Tx or 1000Base-T1 and 1000Base-T.
- Master-slave configuration and selectable 100M/1000M mode via DIP switch.
- IEEE Compliant/Legacy mode switch automatically.

// Specification

Max Speed	100/1000(switched by DIP switch)
Working Voltage	5V (standard USB Type C power supply)
Interface Type	Rosenberger H-MTD (E6S20A-40MT5-Z):Pin1:D+, Pin2:D-
master/slave mode	Select master/slave mode via the DIP switch
Working mode	IEEE "Compliant" / "Legacy" mode switch automatically
Dimensions	102mm X 52mm X 31mm
Origin	P.R.China

*Customized software can display and record the connection status and signal status (Optional).



OPT-CPB10-S1 FPD-LINK& GMSL One-Direction Transmission Optic Transceiver

// Function

- Compatible with FPD-LINK & GMSL and GMSL serializer/deserializer, one-direction transmission!
- Built-in ESD protector can resist up to 15kV!
- Radiation susceptibility up to CW 300V/m! ①
- Radiation susceptibility up to radar wave 600V/m! ①
- Resistance to 200mA BCI!
- Self-interference is 6dB lower than CISPR 25 Class 5 limits! ①

* Note 1: The data is measured based on the Four-Optic Transceiver method of CHANGEN, and the relevant test conditions are subject to the description of CHANGEN.

// Specification

Max speed	10Gbps
Fiber	Single Core, LC, single mode 9/125um
Connector	Fakra or HSD
Chip compatibility	FPD-LINKIII Serializer / Deserializer from Texas Instruments GMSL (gigabit multimedia serial link)Serializer / Deserializer from MAXIM
Built-in battery	Li-ion battery, Type-C charging port
Continuous work time	48 hours(From fully charging)
Battery capacity indicator	2 levels indicator
Temperature	0°C to 70°C
Warranty	Optic transceiver 36 months,12 months(Accessories mean optic fiber, convert or charger,instrument container)
Dimensions	128mm(L) X 80mm(W) X 44mm(H)
Origin	P.R.China

OPT-RS232-A1 RS232 Optic Transceiver



// Function

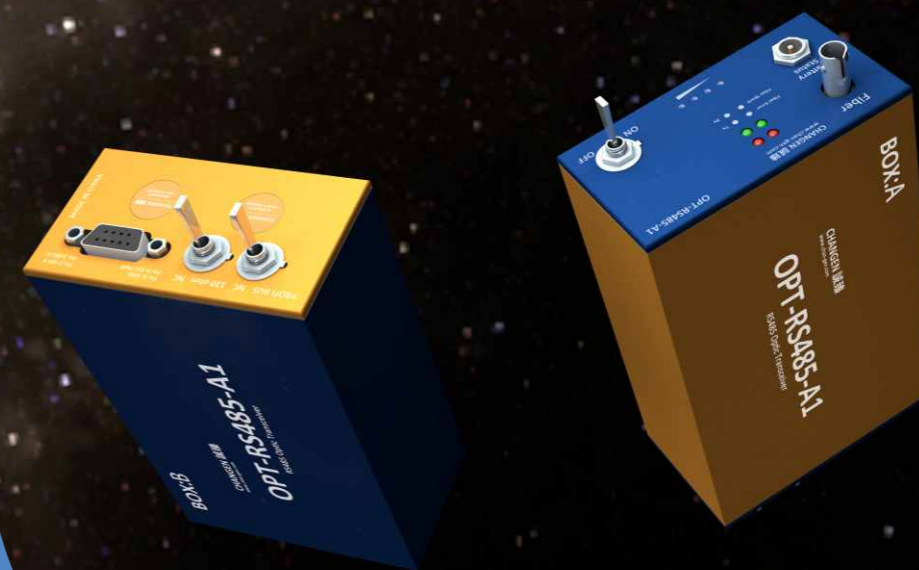
- Newest RS232 optic transceiver!
- Adjustable capacitors for Tx/D / Rx/D to GND!
- Resistance to 200mA BCI!
- Radiation susceptibility up to CW 300V/m! ①
- Radiation susceptibility up to radar wave 600V/m! ①
- Built-in ESD protector can resist up to 15kV!
- Intuitive battery power indicator!
- Self-interference is 6dB lower than CISPR 25 Class 5 limits! ①

* Note 1: The data is measured based on the Four-Optic Transceiver method of CHANGEN, and the relevant test conditions are subject to the description of CHANGEN.

// Specification

Max speed	750kbps
Fiber	Single Core, ST, multi mode 62.5/125μm
BUS connector	D-Sub 9 Female (Pin2:Tx/D/Pin3:Rx/D/Pin5:GND)
TxD / Rx/D Ground Capacitor	Selectable toggle switch from 150pF/1nF/∞
ESD Protector	15kV
Built-in battery	Li-ion battery
Continuous work time	>24 hours(From fully charging)
Battery capacity indicator	4 levels indicator
Temperature	0°C to 70°C
Warranty	Optic transceiver: 36 months Accessories: 12 months (Accessories mean optic fiber, convertor, charger, instrument container)
Dimensions	128mm(L) × 80 mm(W) × 44 mm(H)
Origin	P.R. China

OPT-RS485-A1 RS485 Optic Transceiver



// Function

- Newest RS485 optic transceiver!
- Support PROFI BUS!
- Built-in ESD protector can resist up to 35kV!
- Resistance to 200mA BCI!
- Radiation susceptibility up to CW 300V/m! ①
- Radiation susceptibility up to radar wave 600V/m! ①
- Intuitive battery power indicator!
- Self-interference is 6dB lower than CISPR 25 Class 5 limits! ①

* Note 1: The data is measured based on the Four-Optic Transceiver method of CHANGEN, and the relevant test conditions are subject to the description of CHANGEN.

// Specification

Max speed	20Mbps
Fiber	Single Core, ST, multi mode 62.5/125μm
BUS connector	D-Sub 9 Female (Pin1 to 485A (+) / Pin2 to 485B (-))
ESD Protector	35kV
Built-in battery	Li-ion battery
Continuous work time	>24 hours(From fully charging)
Battery capacity indicator	4 levels indicator
Temperature	0°C to 70°C
Warranty	Optic transceiver: 36 months Accessories: 12 months (Accessories mean optic fiber, convertor, charger, instrument container)
Dimensions	128mm(L) × 80 mm(W) × 44 mm(H)
Origin	P.R. China

OPT-UART5-A1 UART Optic Transceiver



// Function

- Newest UART signal optic transceiver!
- Built-in ESD protector can resist up to 35kV!
- Resistance to 200mA BCI!
- Radiation susceptibility up to CW 300V/m! ①
- Radiation susceptibility up to radar wave 600V/m! ①
- Self-interference is 6dB lower than CISPR 25 Class 5 limits! ①

* Note 1: The data is measured based on the Four-Optic Transceiver method of CHANGEN, and the relevant test conditions are subject to the description of CHANGEN.

// Specification

Max speed	1Mbps
Signal type	TTL electrical level
Signal amplitude	Selectable toggle switch from 3.3V/5V
Fiber	Single Core, ST, multi mode 62.5/125μm
BUS connector	D-Sub 9 Female (Pin2 to Tx / Pin3 to Rx/Pin5 to GND))
ESD Protector	Selectable toggle switch between 30kV / no protection
Built-in battery	Li-ion battery
Continuous work time	>72 hours(From fully charging)
Battery capacity indicator	2 levels indicator
Temperature	0°C to 70°C
Warranty	Optic transceiver: 36 months Accessories: 12 months (Accessories mean optic fiber, convertor, charger, instrument container)
Dimensions	128mm(L) × 80 mm(W) × 44 mm(H)
Origin	P.R. China



OPT-USB20-A1 USB2.0 Optic Transceiver

// Function

- Newest USB 2.0 optic transceiver!
- Compatible with USB 1.1 and USB 2.0!
- Max 12Mbps in USB1.1 mode!
- Max 480Mbps in USB2.0 mode!
- Built-in ESD protector can resist up to 25kV!
- Resistance to 200mA BCI!
- Radiation susceptibility up to CW 300V/m! ①
- Radiation susceptibility up to radar wave 600V/m! ①
- Intuitive battery power indicator!
- Self-interference is 6dB lower than CISPR 25 Class 5 limits! ①

// Specification

Max speed	480Mbps@USB 2.0 / 12Mbps@USB 1.1
Fiber	Single Core, LC, single mode 9/125μm
USB connector	PC port: USB Type B × 1 Extension port: USB Type A × 1
USB extension current	800mA (Max)
ESD Protector	25kV
Built-in battery	Li-ion battery
Continuous work time	PC Port:>12h (From fully charging) Extension Port: depending on the USB device power consumption
Battery capacity indicator	2 levels indicator
Charging port	Type-C
Temperature	0°C to 70°C
Warranty	Optic transceiver: 36 months Accessories: 12 months (Accessories mean optic fiber, convertor, charger, instrument container)
Dimensions	128mm(L) × 80mm(W) × 44mm(H)
Origin	P.R. China



OPT-USB30-A1 USB3.0 Optic Transceiver



// Function

- Newest USB 3.0 optic transceiver!
- Max theoretical speed up to 5Gbps!
- Built-in ESD protector can resist up to 25kV!
- Resistance to 200mA BCI!
- Radiation susceptibility up to CW 300V/m! ①
- Radiation susceptibility up to radar wave 600V/m! ①
- Intuitive battery power indicator!
- Self-interference is 6dB lower than CISPR 25 Class 5 limits! ①

* Note 1: The data is measured based on the Four-Optic Transceiver method of CHANGEN, and the relevant test conditions are subject to the description of CHANGEN.

// Specification

Max speed	Max theoretical speed up to 5Gbps!
Fiber	Single Core, LC, single mode 9/125μm
USB connector	PC Port:USB Type B, Extension Port:USB Type A
USB extension current	2000mA (Max)
ESD Protector	25kV
Built-in battery	Li-ion battery
Continuous work time	PC Port:>12h (From fully charging) Extension Port: depending on the USB device power consumption
Battery capacity indicator	2 levels indicator
Charging port	Type-C
Temperature	0°C to 70°C
Warranty	Optic transceiver: 36 months Accessories: 12 months (Accessories mean optic fiber, convertor, charger, instrument container)
Dimensions	128mm(L) × 80mm(W) × 44mm(H)
Origin	P.R. China



OPT-AN20K-B2 OPT-AN20K-B8 20kHz Dual Channel \Eight Channel Analog Signal Optic Transceiver

// Function

- Newest optic transceiver that Max transmission signal frequency up to 20kHz! ②
- Specialized high sensitive mic is optional for this product!
- Resistance to 200mA BCI!
- Radiation susceptibility up to CW 300V/m! ①
- Radiation susceptibility up to radar wave 600V/m! ①
- Specially for audio product testing!
- Tx / Rx transceivers can be used in chambers!
- Self-interference is 6dB lower than CISPR 25 Class 5 limits! ①

* Note 1: The data is measured based on the Four-Optic Transceiver method of CHANGEN, and the relevant test conditions are subject to the description of CHANGEN.

* Note 2: The frequency here refers to sine wave.

// Specification

Transmission frequency	DC-20kHz
Channels	2/8
Resolution	16 Bit
Fiber	Single Core, LC, Single mode 9/125μm
Signal connector	D-Sub9, Female
Input signal voltage	≤ ±16V, knob stepless adjustment
Built-in battery	Li-ion battery
Continuous work time	>12h (From fully charging)
Battery capacity indicator	2 levels indicator
Temperature	0°C to 70°C
Charging port	Type-C
Warranty	Optic transceiver: 36 months Accessories: 12 months (Accessories mean optic fiber, convertor, charger, instrument container)
Dimensions	192mm(L) × 80mm(W) × 44mm(H)
Origin	P.R. China



OPT-AN01M-B1 1MHz Analog Signal Optic Transceiver

// Function

- Newest optic transceiver that Max transmission signal frequency up to 1MHz! ②
- Specially for vehicle instruments testing!
- Resistance to 200mA BCI!
- Radiation susceptibility up to CW 300V/m! ①
- Radiation susceptibility up to radar wave 600V/m! ①
- Intuitive battery power indicator!
- Tx / Rx transceivers can be used in chambers!
- Self-interference is 6dB lower than CISPR 25 Class 5 limits! ①

* Note 1: The data is measured based on the Four-Optic Transceiver method of CHANGEN, and the relevant test conditions are subject to the description of CHANGEN.

* Note 2: The frequency here refers to sine wave.

// Specification

Transmission frequency	DC-1MHz
Fiber	Single Core,Lc,single mode 9/125um
Signal connector	BNC, Female
Input signal voltage	≤ ±16V, knob stepless adjustment
Built-in battery	Li-ion battery
Continuous work time	>8h (From fully charging)
Battery capacity indicator	2 levels indicator
Temperature	0°C to 70°C
Warranty	Optic transceiver: 36 months Accessories: 12 months (Accessories mean optic fiber, convertor, charger, instrument container)
Dimensions	192mm(L) × 80mm(W) × 44mm(H)
Origin	P.R. China



OPT-HBAV8-B1 CVBS(8MHz) Video Signal Optic Transceiver

// Function

- Newest CVBS video signal optic transceiver!
- Specially for vehicle camera testing!
- Video bandwidth up to 8MHz!
- Resistance to 200mA BCI!
- Radiation susceptibility up to CW 300V/m! ①
- Radiation susceptibility up to radar wave 600V/m! ①
- Intuitive battery power indicator!
- Self-interference is 6dB lower than CISPR 25 Class 5 limits! ①

* Note 1: The data is measured based on the Four-Optic Transceiver method of CHANGEN, and the relevant test conditions are subject to the description of CHANGEN.

// Specification

Video bandwidth	8MHz
Fiber	Single Core,Lc,single mode 9/125um
Signal connector	BNC, Female
Input signal type	CVBS
Built-in battery	Li-ion battery
Continuous work time	>8h (From fully charging)
Battery capacity indicator	2 levels indicator
Temperature	0°C to 70°C
Warranty	Optic transceiver: 36 months Accessories: 12 months (Accessories mean optic fiber, convertor, charger, instrument container)
Dimensions	192mm(L) × 80mm(W) × 44mm(H)
Origin	P.R. China



OPT-BUSTT-BS BUS Optic Transceiver Tester

// Function

- Newest BUS optic transceiver tester!
- Support LIN, LS CAN, HS CAN and CAN FD!
- ONE-KEY for shifting different BUS and bit speed!
- Extreme bus load for simulating the worst condition!
- Support external power supply!
- Intuitive battery power indicator!

// Specification

BUS type	LIN / Low Speed (LS) CAN / High Speed (HS) CAN / CAN FD
BUS connector	D-Sub 9 Female
LIN Configuration	LIN Version: 2.1 Bit speed: 9.6kbps/19.2kbps
LS CAN Configuration	R_{RTL}/R_{RTH} : 560 Ω , 220pF(CAN_H / CAN_L to GND) Bit speed: 60kbps/125kbps
HS CAN Configuration	R_{RTL}/R_{RTH} : 120 Ω , 470pF(CAN_H / CAN_L to GND) Bit speed: 125kbps/250kbps/500kbps
CAN FD Configuration	R_{RTL}/R_{RTH} : 120 Ω , 470pF(CAN_H / CAN_L to GND) CAN FD version: MCAN 3.2 Bit speed: 1Mbps/1.25Mbps/2.5Mbps
Built-in battery	Li-ion battery
Continuous work time	>8h (From fully charging)
Battery capacity indicator	4 levels indicator
Battery charger	DC 12V, 1A
Temperature	0°C to 70°C
Warranty	36 months
Dimensions	250mm(L) × 250mm(W) × 112mm(H)
Origin	P.R. China



EPT100 ESD Protector Verifier

- ESD protector, as the test unit or one of the built-in measurement functions, like the QP detector of the EMI test receiver, gradually decreases in performance as the number of uses increases.
- How to ensure that built-in ESD protector or external ESD protector is still within the effective capacity range? The latest product EPT100 from CHANGEN could be an excellent solution.
- The ESD-CANHS-AA, ESD-LIN22-AA, ESD-A51V8-AA and the optic transceiver with built-in ESD protector of CHANGEN can be verified by EPT100, before the start and after the ESD testing.

ESD-A51V8-AA Analog ESD Protection Device



- This ESD protection device can resist up to 30kV, fully protect test auxiliary equipment against ESD pulses;
- For CHANGEN devices OPT-AN50K-A1, OPT-AN01M-A1, OPT-HBAV8-A1.

ESD-CANHS-AA HS CAN BUS ESD Protection Device



- This ESD protection device can resist up to 30kV, fully protect test auxiliary equipment against ESD pulses;
- Max speed 1Mbps;
- The electrostatic energy strung into the CAN bus will be directly led into the ground wire with very low impedance by the protection circuit, so as to ensure the safety of auxiliary equipment.

ESD-LIN22-AA LIN ESD Protection Device



- This ESD protection device can resist up to 30kV, fully protect test auxiliary equipment against ESD pulses;
- Max speed 20kbps;
- The electrostatic energy strung into the LIN bus will be directly led into the ground wire with very low impedance by the protection circuit, so as to ensure the safety of auxiliary equipment.

We provide 3-year warranty for ESD protection devices.
The following conditions are not covered by the warranty if the device was:
1) Immersed in water 2) lost the function of protection module 3) damaged by obviously drop or collision.

HD316 EMC Full HD Camera



HD316 is a blockbuster product that CHANGEN has dedicated to the EMC laboratories all over the world after HD207 leads the market demand for full HD cameras!

Hd316 was redesigned by using completely different design language, finer modulation for the application of EMC laboratory and bravely challenged the control accuracy of the Pan-Tilt system based on the patent technology used in Hd207!

The domestically produced 32X optical zoom full HD camera and CHANGEN's newly designed Pan-Tilt system to match its excellent performance, make the observation position of the camera can still be fine adjusted through professional software after the achievement of 32X optical zoom, the degree of delicacy is unprecedented.

// Specification

Sensor Type	1/2.8" CMOS
Day / Night Mode	Yes
ES	1/1'-1/30000'
Focal Length	4.3-129.0mm
Aperture	F1.6-F4.4
Optical Zoom	32x
Digital Zoom	Yes
Focus	Auto / Manual
FOV	58.9°-2.11°
Compression	H.265 / H.264
Max Frames	30fps@2048*1536/ 30fps@1920*1080 (60Hz) 25fps@2048*1536/ 25fps@1920*1080 (50Hz)
Built-in Mic	8kHz, mono,16-bit
Built-in Speaker	Yes
Fiber Connector	ST, single type, 62.5/125μm
Enclosure	Al-alloy
Camera Dimension (contain Pan-Tilt)	220mm(L) × 160mm(W) × 150mm(H)
EMS performance	Radiation susceptibility up to CW 300V/m, radar wave 600V/m.Frequency range DC-18GHz
EMI performance	6dB below CISPR 25 Class 5 limit
Warranty	12 months

// Features

- The full HD image quality of 32x optical zoom must be a nightmare without a perfect Pan-Tilt. CHANGEN's new Pan-Tilt design perfectly solves this problem. Performing detailed observation from a distance will become a new trend of video surveillance in the EMC laboratory.
- Single fiber design has always been the design language highly praised by CHANGEN. The complexity of the design can bring convenience for the testers in use and maintenance. CHANGEN used this technology from the optical transceiver to the shielded camera. This will be the first time in the world for similar products to use this new technology.
- The hidden design of the cable is one of the technologies included in CHANGEN's global invention patent, which solved the hidden danger in testing and use of the complicated cable. In the design of HD316, CHANGEN also exerted the patented technology of this invention, simplifying the wire of the camera with complicated functions to only one power cord and one fiber.
- The built-in speaker and microphone system are re-optimized design, and the clear sound quality will bring a new testing experience to the testers!
- Camera control comes standard with 1TB video storage space, test video can be recorded if you want!!

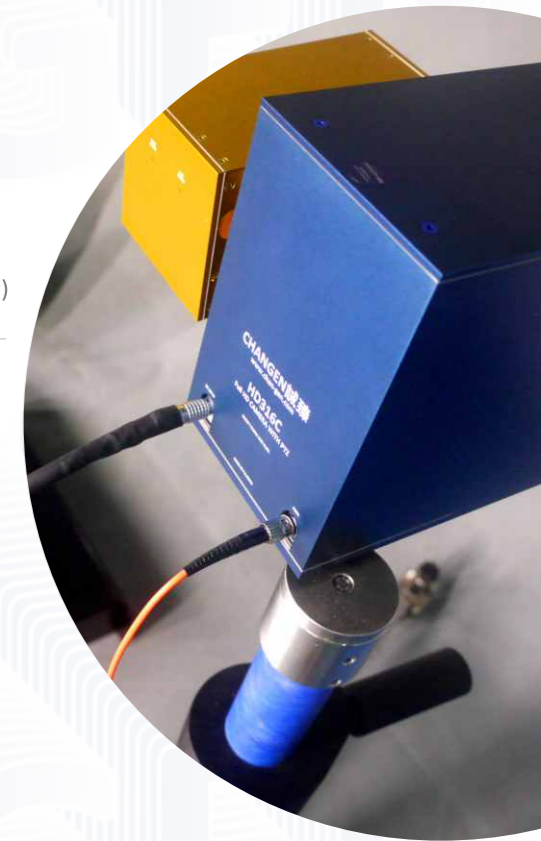
*Note: HD316EM4 option can be selected to expand to a larger 4T video storage space.

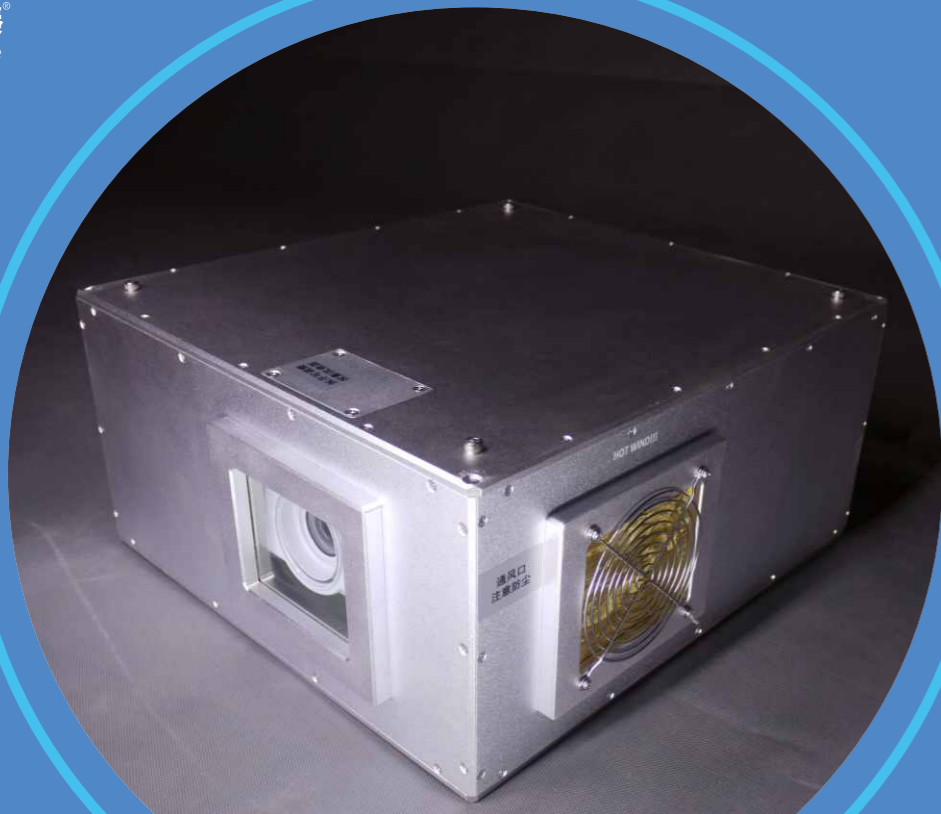
// Basic Config

Shielded power supply	HD316SP, AC100-240V, 50Hz
Shielded cameral power supply cord	HD316PW5, 5 meters
Fiber	20 meters, ST connector, 62.5/125μm multi mode,single core
Controller	<ul style="list-style-type: none"> ✓ Can customize up to 16 sets HD316 optical fibers input simultaneously ✓ Support one HDMI output (max resolution: 4k) ✓ Customizable multi-screen output ✓ Support audio output, headphones or active speakers ✓ Wireless keyboard / mouse 1 sets ✓ Official operating system ✓ Standard 1TB video storage, larger capacity can be customized ✓ Single screen output picture supports single picture or multiple pictures ✓ Support microphone access ✓ Two USB 2.0 access (for wireless keyboard and mouse and video file copy) ✓ 19 inch standard case

// Option Config

Camera	HD316C
Pan-Tilt	HD316PT
Single controller	HD316MC
Multi controller	HD316MCx (x=2 -16)
Multi-screen output	HD316ESx (x=2 - 16)
Extended storage	HD316EM4, 4T video storage
Extended battery pack	HD316BT
HD monitor	equipped according to user needs
Camera holder	HD316M1, height:0.9-1.4 meters HD316M2, standard height:0.9 meters HD316Mx, height customizable
Camera power supply cord	HD316SPW8, 8 meters HD316SPW10, 10 meters HD316SPWX, height customizable
Extended warranty	HD316EW1, extended one-year warranty HD316EW2, extended two-year warranty





HDB207 Shielding Projector

CHANGEN provided a new projector for EMC laboratory, which not only retains the high resolution and high brightness of the projector, but also meets the EMS / EMI requirements. It ensures the normal use of the projector in the anechoic chamber / shielding room, and the performance is not interfered; it perfectly realizes the stable projection of test pictures in the laboratory, and can switch the computer picture connected to the projector through the infrared remote control.

// Function

- Newest shielding projector!
- The projection can be realized in the anechoic chamber, which is convenient for debugging and monitoring!
- Max resolution up to 1920 × 1080!
- Comply with CISPR 22 test requirement! *
- Radiation susceptibility up to CW 300V/m!
- Radiation susceptibility up to radar wave 600V/m!

*Note: CISPR 25 compliant projector is customizable.

// Specification

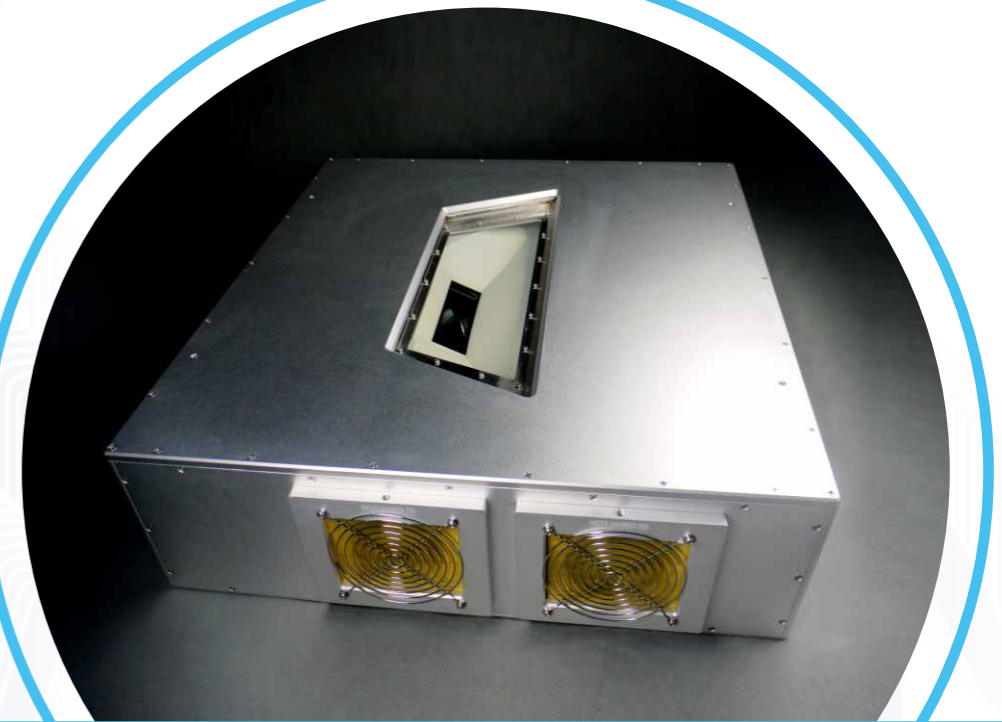
Max resolution	Full HD 1920 × 1080(actual resolution)
Fiber	Single core, ST, single mode 9/125μm
Input video port (controller side)	VGA, HDMI
Warranty	12 months
Dimensions	462mm × 444mm × 212mm
Origin	P.R.China



// Function

- Full HD shielding projector!
- Projection can be realized in the anechoic chamber, which is convenient for debugging and monitoring!
- Max resolution up to 1920 × 1080!
- Comply with CISPR 22 test requirement! *
- Radiation susceptibility up to CW 300V/m!
- Radiation susceptibility up to radar wave 600V/m!

*Note: CISPR 25 compliant projector is customizable.



HDB230 Full HD Shielding Projector

HDB230 is an upgraded product base on HDB207, and its kernel enables commercial laser projectors of internationally renowned brands to have shorter projection distance, longer lumens and better EMC performance. When the projection ruler is close to 100 inches, the distance between the product and the curtain is 30cm. It is pretty suitable to be used as the projection equipment of the visual target simulator when the driverless car test is carried out in the anechoic chamber.

// Specification

Max resolution	Full HD 1920 × 1080(actual resolution)
Fiber	Single core, ST, single mode 9/125μm
Input video port (controller side)	VGA, HDMI
投影方式	正投/背投
Warranty	12 months
Dimensions	462mm × 444mm × 212mm
Origin	P.R.China



LM118P Light Intensity Monitor

LM118P is the fifth generation light intensity monitor developed by CHANGEN. It is very helpful to obtain the objective result of the performance of vehicle head lights and rear lights in the EMS test. Normally, during the EMS tests, the subjective results are always found in the test report. These results are deficient for the car factory to judge the EMC performance of the DUT.

LM118P can convert the light strength to DC voltage ($\leq 12V$). The output voltage can be measured by oscilloscope and record by data recorder. This kind of result is a relative value, not an absolute value. In addition to the above features, the non-metallized design of the probe has almost no negative effect on the RF energy distribution around the DUT. There are more outstanding designs can be found on LM118P once you tried.

// Advantages

- The self-test function of the LM118 is useful for test engineers to adjust the probe status.
 - Battery is REMOVED.
 - Extremely small size and easy to fix on the antenna mast(CHANGENTM Pm0812) for variable angle / position adjustment.
- Compact size for storage and extremely low negative effect for radiation field around the DUT.

// Specification

Wavelength Sensitivity (λ)	430nm - 1010nm
Output Voltage	0 - 12V (direct ratio to the monitored light intensity)
Output Connector	BNC (F, 50 Ω)
Continuous Work Time (h)	Infinite
Input Voltage (for receiver)	AC 100-240V, 50Hz
Dimensions	Detector: 50mm \times Φ 25mm Receiver: 483mm \times 200mm \times 44mm
Screw	3/8" inches
Warranty	36 months
Optional Accessories	Probe holder (CHANGEN PM812 with manual gimbal, multi-probe version can be customized)
Temperature	0 $^{\circ}$ C-50 $^{\circ}$ C
Humidity	10-95%
Probe holder	Gimbal
Probe cable	Fiber



// Features

- The response time is quick to nanosecond (ns) level.
- Validated for EMC at INFINITE V/m field strength.
- The receiver is dual-channel with digital display.
- Each channel can work independently and can be used as a backup for each other.
- Each channel has a highlight / low light adjustment knob.
- Multiple channels can work concurrently, the operation of each channel will not affect the normal operation of other channels.
- Continuously changing output voltage based on the monitored light intensity change ($\leq 12V$ DC).
- Excellent solution for obtaining objective evaluation results of vehicle headlight and taillight performance in EMS test.