

DISCOVERY

Elevator Intelligent Integrated
Machine Products Catalog

Your trusted industry automation solution provider



INVT Elevator Control Technology (Wuxi) Co., Ltd. Building 2,Xingzhou Science and technology business park NO.89 Xingchuang Rd,WND,Wuxi,214028, China

- Industrial Automation:
- Frequency Inverter

■ Servo & Motion Control

■ Motor & Electric Spindle

■ PLC
- HMI

■ Intelligent Elevator Control System

■ Traction Drive
- Electric Power:
- SVG

■ Solar Inverter

■ UPS

■ Online Energy Management System





CONTENTS

Contents

Elevator Control Solution.....	01
EC100 Configuration Instructions.....	02
EC160 Configuration Instructions.....	02
EC100 Series Elevator Intelligent Integrated Machine.....	03
EC160 Series Elevator Intelligent Integrated Machine.....	05
CHV180 Series Inverters for Elevator.....	07
EC-CTB Car Top Control Board.....	09
EC-CCB Car Operation Board.....	09
MC-GCL Elevator Group Controller.....	10
LM11 Elevator Voice Station Reporting Device.....	10
BS10 Intelligent Management System for Elevator IC Card.....	11
DC-03A LED Display Elevator Calling Board.....	12
DC-03B LED Display Elevator Ultra-thin Calling Board.....	12
DC-03H LED Display Elevator Horizontal Calling Board.....	13
DC-03F LED Display Elevator Calling Board.....	13
DC-03W LED Display Elevator Calling Board.....	14
DC-07B LCD Display Segment Code Vertical Calling Board.....	14
DC-07C LCD Display Segment Code Vertical Calling Board.....	15
DC-07D LCD Display Segment Code Vertical Calling Board.....	15
DC-07H LCD Display Segment Code Horizontal Calling Board.....	16
LM20/LM21 Series Multimedia Picture Machine.....	16
BA Protocol Converter Board.....	17
DC-03E External Call Board.....	17
DC-03K Relay Expansion Board.....	18
EC-RDB Pre-open Door Board.....	18
DM-05 Ethernet Network Monitor Module.....	19
Ethernet LAN monitor system.....	19
Elevator Control Cabinet.....	20
Inspection Box.....	21
COP-Car Operation and Hall Operation Panel.....	22
Sales Network.....	23

Elevator Control Solution

Solution Features

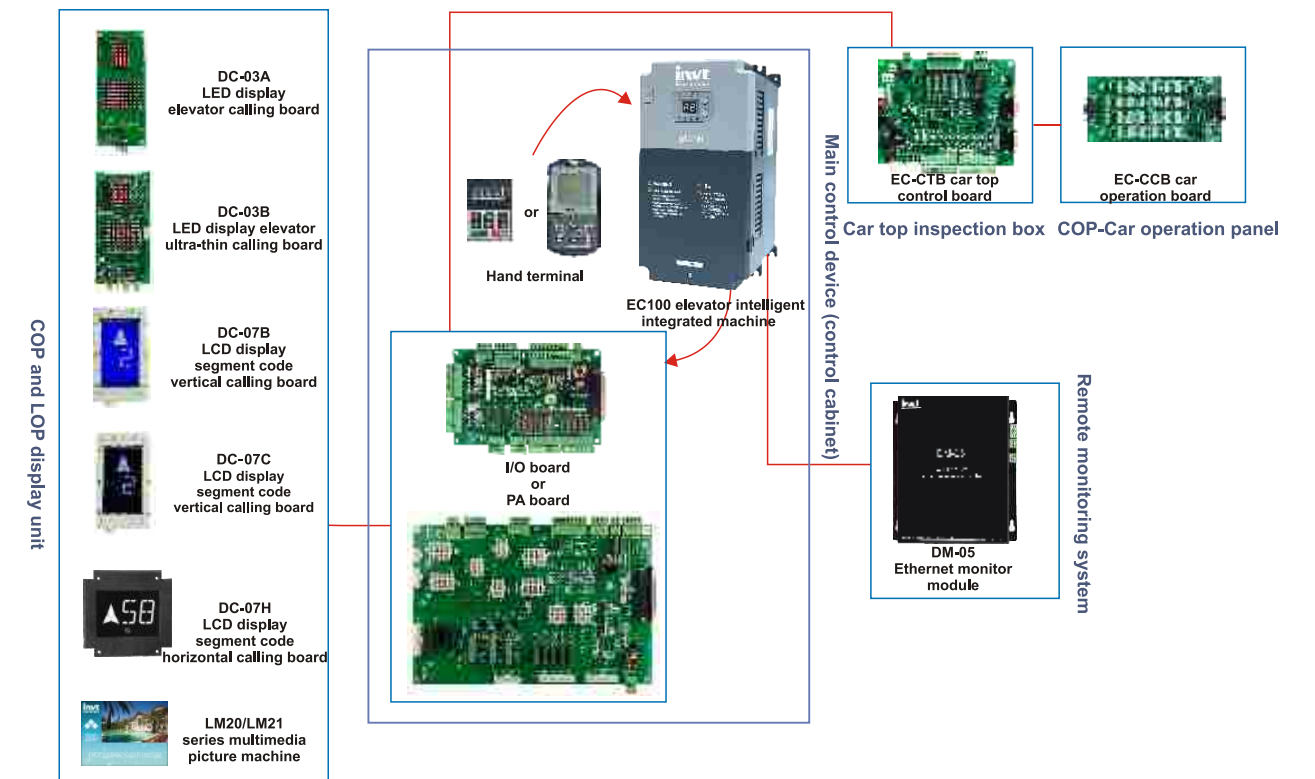
- EN81 Elevator Standard
- Integration of intelligent drive and control
- Multiple choices such as multi-media, LCD, segment and lattice for the display COP and LOP
- Real-time Remote monitoring system, effective elevator pre-alarm and alarm solutions
- Controllable maintenance supervision, control and trace data save and management



Technical Advantages

- PLC programmable technology
- Direct stop technology in the principle of distance control, automatically generated by N curves
- Advanced vector control technology
- LCD operation keypad, compatible with manual operation or PC debugging software
- Redundancy design, safety protection function for the drive control of COP-Car operation panel, improving elevator safety factor greatly
- Automatic car position correction, monitoring function for the forced deceleration switch, protection function against top-hitting and bottom-clashing

EC100 Configuration Instructions



Multi-signal interface board:

EC100-I/O (standard), DB62-core cable is used to connect with EC100 and its maximum length is 10m;
EC100-I/O-PA (optional), integrate with AMP connectors, save the time of control cabinet and facilitate future maintenance

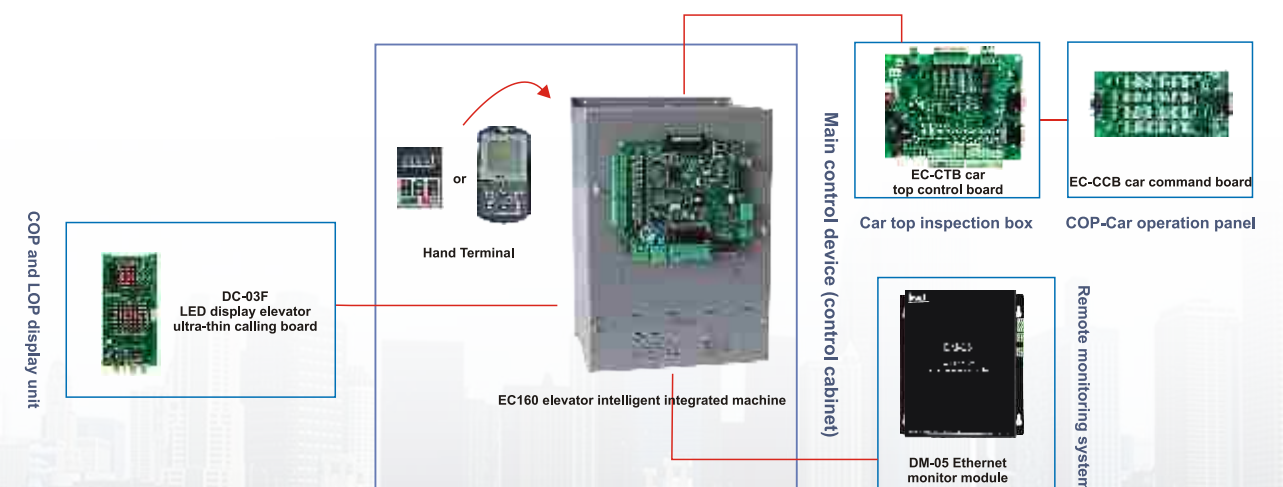
Hand terminal (optional):

EC100-PAD-LED, elevator debugging tool, segment display, small in size and easy to carry;
EC100-PAD, elevator debugging tool, LCD display, available in Chinese and English

Multi-type display board:

multi-media, LCD, LED (horizontal/vertical display)

EC160 Configuration Instructions



EC100 Series Elevator Intelligent Integrated Machine

About the Product

Ec100 Elevator intelligent integrated machine is an intelligent network product for control and drive through applying advanced variable-frequency vector control, intelligent elevator control and network communication. We devote to provide high-tech, high-quality, energy-saving and safe control drive devices to global market.

Basic Performance

- Resources reducing in the elevator installation, debugging, operation and management
- Max speed: 6m/s Max floor:64
- Intelligent network group control can control 8 elevators at the same time
- Embedded high-performance starting compensation technology of non-weighting sensor
- Advanced space vector calculation and be compatible to the encoder interface of AM/SM motor
- High-performance current vector control, 180% torque output at zero speed
- Low voltage emergency-rescue mode of AC220V single phase UPS, search the direction in light load
- Safety enabling hardware input conform to EN81 standards



Special Functions

- The initiate open PLC programming controller: provide the shifting/changing function for some input/output terminals and further development platform for the user
- Hand terminal: stand-alone human-machine interface, on-line Chinese/English help system; functions of debugging management, debugging trace management, parameters uploading/downloading, computer data copying
- The hand terminal can be connected to the CAN interface in the car for convenient parameters setting
- Add TCP/IP internet module for remote debugging and control
- Support remote control of TCP/IP protocol

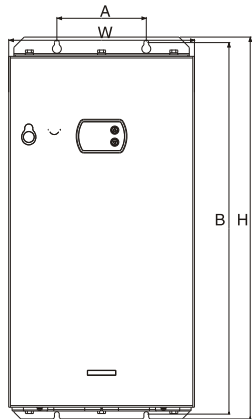
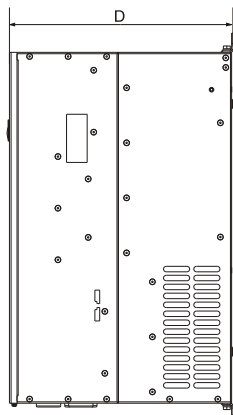
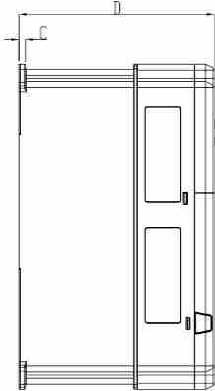
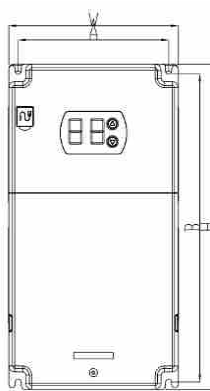
Comprehensive Technical Parameters

Item	Name	Description
Input/output characteristics	Input voltage range	3AC380V±15% 3AC220V±15%
	Input frequency range	47~63Hz
	Output voltage range	0~Rated input voltage
	Output frequency range	0~400Hz
Peripheral interface features	Digital low voltage input	29 channels, DC24V/4.5~8mA
	High-voltage detector input	3 channels, AC/DC 110V
	Digital output	12 channels
	CAN communication interface	3 channels
	Encoder port	Incremental encoder interface,SIN/COS,U/VW
Technical control characteristics	Control mode	PG vector control
	Overload capacity	150% of the rated current:60s; 180% of the rated current:10s
	Starting torque	PG vector control: 0Hz/ 180%
	Speed control accuracy	PG vector control: ±0.1% of the Max. speed
	Carrier frequency	1.0kHz~16.0kHz

Configuration Instructions

Model	Input Voltage	Output Power(kW)	Output Current(A)	Braking Unit	Min.Braking Resistor
EC100-1R5-S2	Single-phase 220V±15%	1.5	5.5	Built-in	120Ω/400W
EC100-2R2-S2		2.2	11	Built-in	100Ω/1000W
EC100-004-2	3AC220V±15%	4.0	18.5	Built-in	35Ω/1200W
EC100-5R5-2		5.5	27.0	Built-in	25Ω/1500W
EC100-7R5-2		7.5	34.0	Built-in	20Ω/2000W
EC100-011-2		11.0	46.0	Built-in	15Ω/4000W
EC100-015-2		15.0	62.0	Built-in	10Ω/4500W
EC100-018-2		18.5	75.0	DBU-055-2	8Ω/5000W
EC100-004-4	3AC380V±15%	4.0	11	Built-in	75Ω/1200W
EC100-5R5-4		5.5	13	Built-in	55Ω/1500W
EC100-7R5-4		7.5	18.5	Built-in	50Ω/2000W
EC100-011-4		11.0	27.0	Built-in	40Ω/4000W
EC100-015-4		15.0	34.0	Built-in	32Ω/4500W
EC100-018H-4		18.5	38.0	Built-in	28Ω/5000W
EC100-022-4		22.0	46.0	Built-in	22Ω/7000W
EC100-030-4		30.0	62.0	Built-in	20Ω/10000W
EC100-037-4		37.0	75.0	DBU-55-4	14Ω/11000W
EC100-045-4		45.0	92.0	DBU-55-4	11Ω/13500W
EC100-055-4		55.0	115.0	DBU-55-4	9Ω/16500W

Appearance and Installation Dimensions



Dimension of 3AC220V 15kW and below
Dimension of 3AC380V 30kW and below

Dimension of 3AC220V 18.5kW
Dimension of 3AC380V 37~55kW

Installation Dimensions

Input voltage	Power(kW)	W(mm)	H(mm)	D(mm)	A(mm)	B(mm)	C(mm)	Hole Diameter (mm)	Installation STUD
Single-phase 220V	1.5~2.2	170	320	197	151	303	6.5	Φ6.5	M6
3AC220V	4~5.5	170	320	197	151	303	6.5	Φ6.5	M6
	7.5	230	330	197	210	311	6.5	Φ6.5	M6
	11~15	255	400	226	237	384	10	Φ6.5	M6
	18.5	270	555	325	130	540	2	Φ7	M6
3AC380V	4~11	170	320	197	151	303	6.5	Φ6.5	M6
	15~18	230	330	197	210	311	6.5	Φ6.5	M6
	22~30	255	400	226	237	384	10	Φ6.5	M6
	37~55	270	555	325	130	540	2	Φ7	M6

EC160 Series Elevator Intelligent Integrated Machine

About the Product

Ec160 elevator intelligent integrated machine is a new elevator intelligent control system developed under the design concept that integrates drive, control and network communication together. It adopts advanced closed loop vector control technology, elevator intelligent control technology and network communication technology, integrating elevator drive, control and management together.



Basic Performance

- Resources reducing in elevator installation, debugging, operation and management
- Max. speed: 6m/s, Max floor: 64
- Intelligent network group control can control 8 elevators at the same time
- Embedded high-performance starting compensation technology of non-weighing sensor
- CANBUS for communication in the car, MODBUS or CANBUS for external communication
- Low voltage emergency rescue mode of AC220V single-phase UPS, light load direction search
- Safety enabling hardware input conform to EN81 standards



Special Functions

- Integrated with control and I/O interface, the compact structure saves installation space for control cabinet
- The integration of encoder interfaces of synchronous and asynchronous motors satisfies stock generalization
- Hand terminal: independent HMI, online Chinese-English help system, functions of debugging permission management, debugging trace management, parameters unloading/downloading and computer data copying
- Add TCP/IP internet module for remote debugging or control
- Support TCP/IP protocol remote monitor

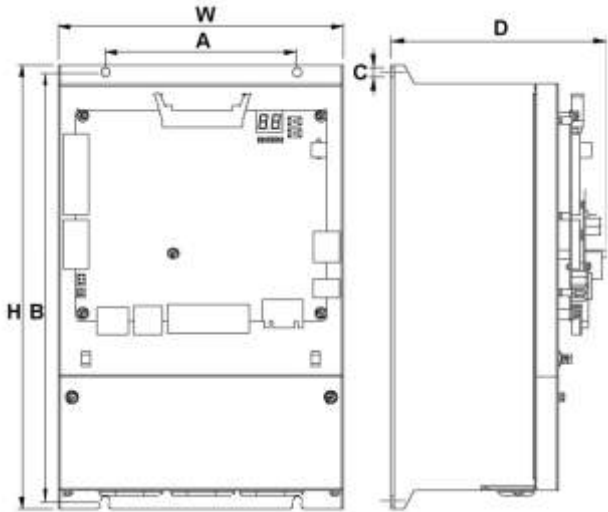
Comprehensive Technical Parameters

Item	Name	Description
I/O characteristics	Input voltage range	3AC 220V±15% 3AC 380V±15%
	Input frequency range	47~63Hz
	Output voltage range	0~rated input voltage
	Output frequency range	0~400Hz
Peripheral interface characteristics	Digital low voltage input	24 digital inputs, 9~30V
	High voltage detection input	3 high voltage detection inputs, 110V/220V
	Switch output	Standard: 6 relay NO outputs, 5A/250 VAC
	Communication interface	2 groups of CANbus, 2 groups of Modbus
Technical control characteristics	Encoder interface	Standard: SIN/COS, UVW, incremental encoder interface Optional: Endat 2.1, rotary PG card
	Control mode	V/F, open loop vector, close loop vector
	Speed control accuracy	Sensorless vector control: ±0.5% of the Max. speed; PG vector control: ±0.1% of the Max. speed
	Starting torque	Sensorless vector control: 0.5Hz/150% (SVC); PG vector control: 0Hz/180% (VC)
	Overload capacity	150% of the rated current: 60s, 180% of the rated current: 10s, 200% of the rated current: 1s
	Carrier frequency	1.0~16kHz, adjust carrier frequency automatically according to load characteristics, default value: 6kHz

Configuration Instructions

Model	Input Voltage	Output power (kW)	Output current (A)	Braking unit	Min.Braking Resistor
EC160-2R2-S2	Single-phase 220V±15%	2.2	11.0	Built-in	100Ω/1000W
EC160-004-2	3AC220V±15%	4.0	18.5	Built-in	35Ω/1200W
EC160-5R5-2		5.5	27.0	Built-in	25Ω/1500W
EC160-7R5-2		7.5	34.0	Built-in	20Ω/2000W
EC160-011-2		11.0	46.0	Built-in	15Ω/4000W
EC160-015-2		15.0	62.0	Built-in	10Ω/4500W
EC160-018-2		18.5	75.0	DBU-055-2	8Ω/5000W
EC160-004-4	3AC380V±15%	4.0	11.0	Built-in	75Ω/1200W
EC160-5R5-4		5.5	13.0	Built-in	55Ω/1500W
EC160-7R5-4		7.5	18.5	Built-in	50Ω/2000W
EC160-011-4		11.0	27.0	Built-in	40Ω/4000W
EC160-015-4		15.0	34.0	Built-in	32Ω/4500W
EC160-018-4		18.5	38.0	Built-in	28Ω/5000W
EC160-022-4		22.0	46.0	Built-in	22Ω/7000W
EC160-030-4		30.0	62.0	Built-in	20Ω/10000W

Appearance and Installation Dimensions



Installation Dimensions

Input voltage	Power(kW)	W(mm)	H(mm)	D(mm)	A(mm)	B(mm)	C(mm)	Installation STUD
3AC220V	4~7.5	223	347	169	150	334.5	Φ7	M6
	11~15	290	426	233	235	410	Φ7	M6
3AC380V	4~5.5	223	347	168	150	334.5	Φ7	M6
	7.5~18.5	223	347	169	150	334.5	Φ7	M6
	22~30	290	426	233	235	410	Φ7	M6

CHV180 Series Inverters for Elevator



Picture 1 for 15kW and below



Picture 2 for 18.5kW and above



About the Product

The comfort, safety and reliability of elevators have been improved through applying the internal advanced vector control with sensor and high accuracy intelligent control. The product is mainly used in passenger elevators and automated warehouse, etc.

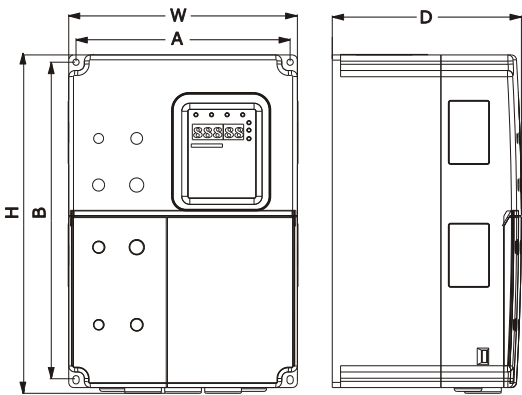
Technical Features

- Compatible with synchronous and asynchronous motor
- Starting torque compensation of weighting sensor; easy parameter setting can prevent starting sliding
- Starting torque compensation control of non-weighting sensor; control synchronous gearless tractor elevator and start steadily
- Synchronization and accurate initial angle identification, for SM, autotuning and debugging simplifying are available in the state, especially for the debugging during the connection between motor and machine
- S-curve acceleration and deceleration algorithm, to improve comfort of acceleration, deceleration and stop of motor
- Brake, contactor control function: according to running logic of elevator to control brake and contactor, to enhance security of elevator
- Optimized speed loop: the speed loop applies variable ratio and integral gain control, provides high dynamic response for starting and stopping and improve the comfort when constant running
- Forced deceleration process: prevent shock in up/down running
- Emergency-rescue: stop at the nearest leveling
- Energy saving running mode: can use RBU to realize energy saving

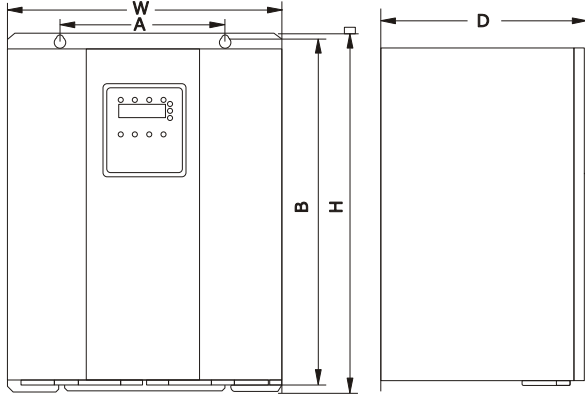
Selection Guideline

Model	Input Voltage	Rated Output Power(kW)	Rated Output Current(A)	Braking Unit	Min.Braking Resistor
CHV180-004G-4	3AC 380V ± 15%	4	9	Built-in	75Ω/1200W
CHV180-5R5G-4		5.5	13	Built-in	55Ω/1500W
CHV180-7R5G-4		7.5	17	Built-in	50Ω/2000W
CHV180-011G-4		11	25	Built-in	40Ω/4000W
CHV180-015G-4		15	32	Built-in	32Ω/4500W
CHV180-018G-4		18	37	DBU-055-4	28Ω/5000W
CHV180-022G-4		22	45	DBU-055-4	22Ω/7000W
CHV180-030G-4		30	60	DBU-055-4	20Ω/10000W

Appearance and Installation Dimensions



Dimension of 15kW and below



Dimension of 18.5~55kW

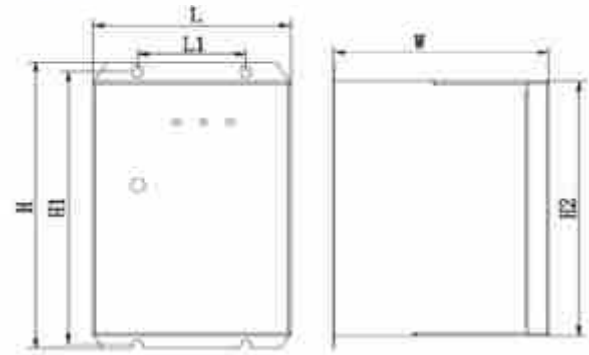
Power(kW)	A(mm)	B(mm)	H(mm)	W(mm)	D(mm)	Hole Diameter (mm)
	Installation Dimension		Appearance Dimension			
1.5~2.2(1-phase AC220V)	110.4	170.2	180	120	140	φ 5
4.0~5.5	147.5	237.5	250	160	175	φ 5
7.5~15	206	305.5	320	220	180	φ 6
18.5~30	176	454.5	467	290	215	φ 6.5
37~55	230	564.5	577	375	270	φ 7

Expansion Card

Name of card	Function instruction
 Asynchronous PG card	Compatible with push-pull signal, open collector signal and the differential signal; Frequency division range: 1~256, the division factor can freely choose by DIP switch
 SIN/COS Synchronous PG card	SIN/COS synchronous PG card support SIN/COS synchronous encoder(main type is Haidenhain ERN1387 or which is compatible with it)
 Absolute PG card	Absolute PG card support absolute rotary encoder. Endat 2.1/2.2 interface. The division factor is 1. Max. input frequency is 50KHz. (Main type is Haidenhain ECN1313)
 CHV180- I/O Extension Card	Offer 4 analog inputs、1 relay output、1 analog output、1 opencollector output, it enhances the input and output capacity.With RS485 communication interface, customer can detect and modify the parameters easily.

Dynamic Braking Unit

Model	Application range	L(mm)	L1(mm)	W(mm)	H(mm)	H1(mm)	H2(mm)
DBU-055-4	18.5-55kW	110	60	120	180	171	160



EC-CTB Car Top Control Board

Appearance dimension (mm)	Installation dimension (mm)	Hole size (mm)
162×125	152×115	Φ4

Product Features

- CANBUS communication
- RS485 communication available, provides a standard RS485 communication protocol to connect with third-party multimedia displays and voice announcer
- RS232 communication available
- Analog weighing input and switching value weighing modes available
- Up to 64 floors control
- Arrival bell output
- Illumination energy-saving control
- Double-door control

Installation Position

Car top inspection station or car operation panel



EC-CCB Car Operation Board

Appearance dimension (mm)	Installation dimension (mm)	Hole size (mm)
158*79	148*68	Φ4

Product Features

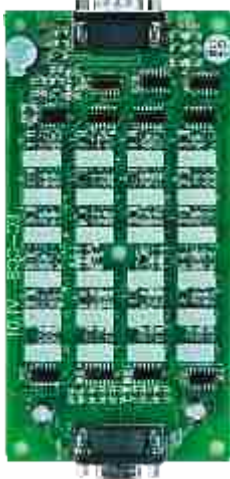
- One board every elevator at least, the first CCB supports 16 floors, one board every 20 floors when more than 16 floors
- Driver, independent, bypass or non-stop switch, driver communication, door-opening delay button input etc.

Application Range

Combined with EC-CTB car top control board

Installation Position

Car top inspection box or car operation panel



MC-GCL Elevator Group Controller

Appearance dimension (mm)	Installation dimension (mm)	Hole size (mm)
121.9*76.2	111.1*64	Φ4

Product Features

- GCL group control system support max 8 elevators
- GCL group control system operation mode: up passenger-flow rush hour, down passenger-flow rush hour, normal, idle
- Optimized dispatch, optimized running elevator
- Shortest and longest waiting time
- Calling control of long time waiting
- Passenger-flow rush hour service, self-running
- Energy-saving and group control fire fighting operation
- Group control spare power operation
- Decentralized processing control

Installation Position

Elevator control cabinet



LM11 Elevator Voice Station Reporting Device

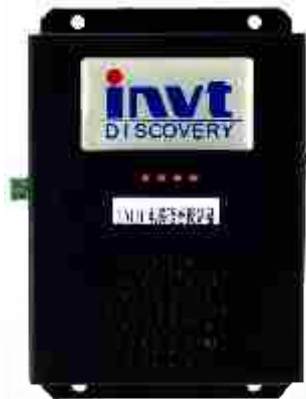
Appearance dimension (mm)	Installation dimension (mm)	Hole size (mm)
156*105*41	145*70	Φ5.5

Product Features

- Announce the running direction when the elevator is about to run
- Announce the floor when the elevator is about to arrive at the stop
- Play the background music
- Comfort the passengers during fault or fire running
- When the elevator arrives at a floor, play the advertising music specified at the current floor after announcing the floor
- Support users to freely change all the music in LM11, including advertising music, background music and stop announcing music
- Use SD card to store MP3, easy to change

Installation Position

Car top or COP-Car operation panel



BS10 Intelligent Management System for Elevator IC Card

Product Features

- Elevator special card can be used when get authorization of real estate management department
- Re-swipe card prevention
- Real-time record of card
- Automatic calling according to IC card information
- Remote control of elevator button
- Setting elevator special IC card permission to meet different demands
- Blacklist lock-out function to prevent illegal use when card is lost
- Multi-function card like smart card
- Card controller functions: swiping, lost, timed, timing, charging, visitor, driver, fire fighting, real-time card records, remote real-time card information, remote control of elevator etc.



Elevator Special IC Card Classification

Authorization card, common card, report the loss of card, timed card, timing card, expense deduction card, visitor card

System Configuration

- BS10-01 controller 1 piece every elevator
- BS10-02 antenna board 1 piece every elevator
- BS10-03 extension board 1 piece every 16 floors
- BS10-04 write card (optional)
- IC card read-write software (optional)

Installation Position

COP-Car operation panel

DC-03A LED Display Elevator Calling Board

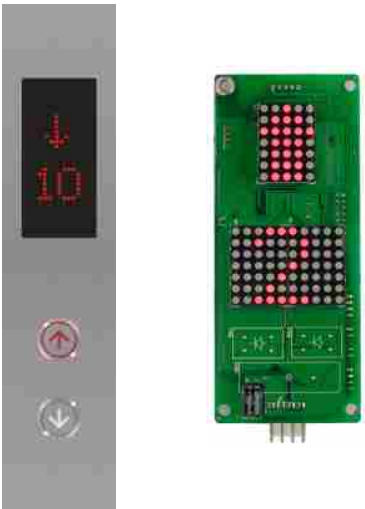
Appearance dimension (mm)	Installation dimension (mm)	Hole size (mm)
140*58*18	130*52	Φ4

Product Features

- 32-bit processor
- Simple and reliable CANBUS serial communication
- All ASC characters can be displayed
- Calling, locking and fire protection function
- OL, FL, maintenance and UP/DOWN arrival lights are optional
- Lattice rolling display

Application Range

External calling display, Car box display



DC-03B LED Display Elevator Ultra-thin Calling Board

Appearance dimension (mm)	Installation dimension (mm)	Hole size (mm)
144*70*11.4	134*56	Φ4

Product Features

- 32-bit processor
- Refinement ultra-thin design 10mm, applied to wall-hooked landing operation panel
- Simple and reliable CANBUS serial communication
- All ASC characters can be displayed
- Calling, locking and fire protection function
- OL, FL, maintenance are optional
- Lattice rolling display

Application Range

External calling display, car box display



DC-03H LED Display Elevator Horizontal Calling Board

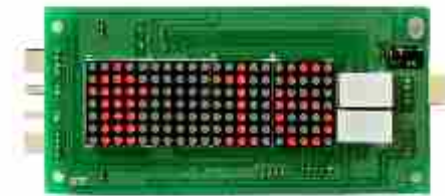
Appearance dimension (mm)	Installation dimension (mm)	Hole size (mm)
144*70*11.6	134*56	Φ4

Product Features

- DC24V power, 32-bit processor
- CANBUS communication
- Round dot matrix LED display
- Display floor, direction, OL, FL, and overhaul information
- Output of arrival lamp or bell

Application Range

Hall lintel display, external calling display, car box display



DC-03W LED Display Elevator Calling Board

Appearance dimension (mm)	Installation dimension (mm)	Hole size (mm)
144*70*12.2	134*56	Φ4

Product Features

- DC24V power, 32-bit processor
- CANBUS communication
- All ASC characters can be displayed
- Calling, locking and fire protection function
- OL, FL, maintenance information is optional
- White lattice rolling display

Application Range

External calling display, car box display



DC-03F LED Display Elevator Calling Board

Appearance dimension (mm)	Installation dimension (mm)	Hole size (mm)
144*70*11.4	134*56	Φ4

Product Features

- DC24V power, 32-bit processor
- RS485 communication
- All ASC characters can be displayed
- Calling, locking and fire protection function
- OL, FL, maintenance information is optional
- Lattice rolling display

Application Range

Combined with EC160, for external calling display and car box display



DC-07B LCD Display Segment Code Vertical Calling Board

Appearance dimension (mm)	Installation dimension (mm)	Hole size (mm)	Screen dimension
146.5*79.5*15	118*60	Φ4	4.3inch

Product Features

- Ultra-thin designation, suitable for wall-mounted external calling box
- DC24V power, 32-bit processor
- CANBUS communication, segment code display, vertical display, white characters on the blue background, generally applied in the hall
- Display floor, running direction, maintenance, FL, OL, fire protection information, and English is optional for display
- Terminals of landing operation, lock and fireman
- Output of arrival lamp or bell is optional

Application Range

External calling display, car box display



DC-07C LCD Display Segment Code Vertical Calling Board

Appearance dimension (mm)	Installation dimension (mm)	Hole size (mm)	Screen dimension
146.5*79.5*15	118*60	Φ4	4.3inch

Product Features

- Ultra-thin designation, suitable for wall-mounted external calling box
- DC24V power, 32-bit processor
- CANBUS communication, segment code display, vertical display, white characters on the black background, generally applied in the hall
- Display floor, running direction, maintenance, FL, OL, fire protection information, and English is optional for display
- Terminals of landing operation, lock and fireman
- Output of arrival lamp or gong is optional

Application Range

External calling display, car box display



DC-07D LCD Display Segment Code Vertical Calling Board

Appearance dimension (mm)	Installation dimension (mm)	Hole size (mm)	Screen dimension
173*126*17.5	105*160	Φ5	7inch

Product Features

- DC24V power, 32-bit processor
- RS485 communication
- Segment code display, vertical display, white characters on the blue background
- Display floor, running direction, FL, OL, maintenance, fire alarm, suspend service information

Application Range

Car box display



DC-07H LCD Display Segment Code Horizontal Calling Boar

Appearance dimension (mm)	Installation dimension (mm)	Hole size (mm)	Screen dimension
180*183*20.2	154*123	Φ6	6.4inch

Product Features

- DC24V power, 32-bit processor
- CANBUS communication
- Segment code display with white characters on the black background
- Display floor, running direction, parking, OL information

Application Range

Car box display



LM20/LM21 Series Multimedia Picture Machine

Model	LM20/LM21-056	LM20/LM21-070	LM20/LM21-104
Size of LCD	5.6inch (4:3)	7inch (16:9)	10.4inch (4:3)
LCD Resolution(Pixels)	640*480	800*480	640*480

- Note: The size is for horizontal installation. The length and width needs to be exchanged in vertical installation; LM21 is an upgraded version of LM20.

Product Features

- Display the floor, running direction, overload, fire alarm, full load, stopping and inspection information of the elevator;
- Floor reporting or background music playing. The displaying will stop automatically if no calling signal for 10 minutes;
- Display the data, time, LOGO of customers and words;
- Color pictures used for corporate identify and commercial advertising;
- The user can connect the USB port with the computer to update the displayed images and audio files and change the displayed interfaces and modes. Horizontal and vertical installation is available.

Application Range

Car box display



BA Protocol Converter Board

Overall dimension (mm)	Installation dimension (mm)	Hole size (mm)
90*60	64*52	Φ4

Product Features

- Used as a protocol converter, can provide RS485 and CAN protocol
- Baud rate is optional
- CANBUS protocol can provide monitoring signal: up/down, light curtain, OL, FL, fire protection, lock, fault etc
- RS485 protocol can provide monitoring signal: up/down, OL, FL, fire protection, lock, drive, by-pass, maintenance, fault etc
- RS485 bus monitoring signal: up/down, OL, FL, fire protection, lock, drive, by-pass, maintenance, fault etc

Application Range

Configured with other company's RS485 communication or CAN disclosed protocol communication product

Installation Position

COP-Car operation panel



DC-03E External Call Board

Overall dimension (mm)	Installation dimension (mm)	Hole size (mm)
65*45*14	59*39	Φ4

Product Features

- DC 24V power supply, 32-bit processor
- CANBUS communication, 1-digit LED display, applicable to the hall of home elevators or external call in group control
- Display the information of floor, inspection and full load
- Input ports of calling and locking
- Output port of 4-digit parallel display, Max. address: 15
- Output of arrival lamp or gong is optional

Application Range

External hall of villa elevators, external call in group control, parallel display in connection with other manufacturers

Installation Position

External hall



DC-03K Relay Expansion Board

Overall dimension (mm)	Installation dimension (mm)	Hole size (mm)
53*50*11.4	43*40	Φ4

Product Features

- Relay output
- Realize control of up/down lamp, arrival gong signal
- Output is : up/down indicator, arrival bell

Application Range

Combined with DC-03A , DC-03B, DC-03C, DC-3E

Installation Position

COP-Car operation panel, or external hall



EC-RDB Pre-open Door Board

Overall dimension (mm)	Installation dimension (mm)	Hole size (mm)
98*84	90*76	Φ4

Product Features

- Micro-leveling function: when the floor is high, passengers pass in and out can cause the car moving up and down for the rope stretching, which causes inaccurately leveling, so the system will leveling the car slowly with door open
- Pre-open function: to improve efficiency of the elevator, when the elevator is in the pre-installed zone, it will open the door automatically through the control of program (elevator is leveling, and not finishing the progress yet)

Application Range

When customer needs micro-leveling function, pre-open function

Installation Position

Control cabinet



DM-05 Ethernet Network Monitor Module

Overall dimension (mm)	Installation dimension (mm)	Hole size (mm)
150*170*36.2	138*130	Φ4.2

About the Product

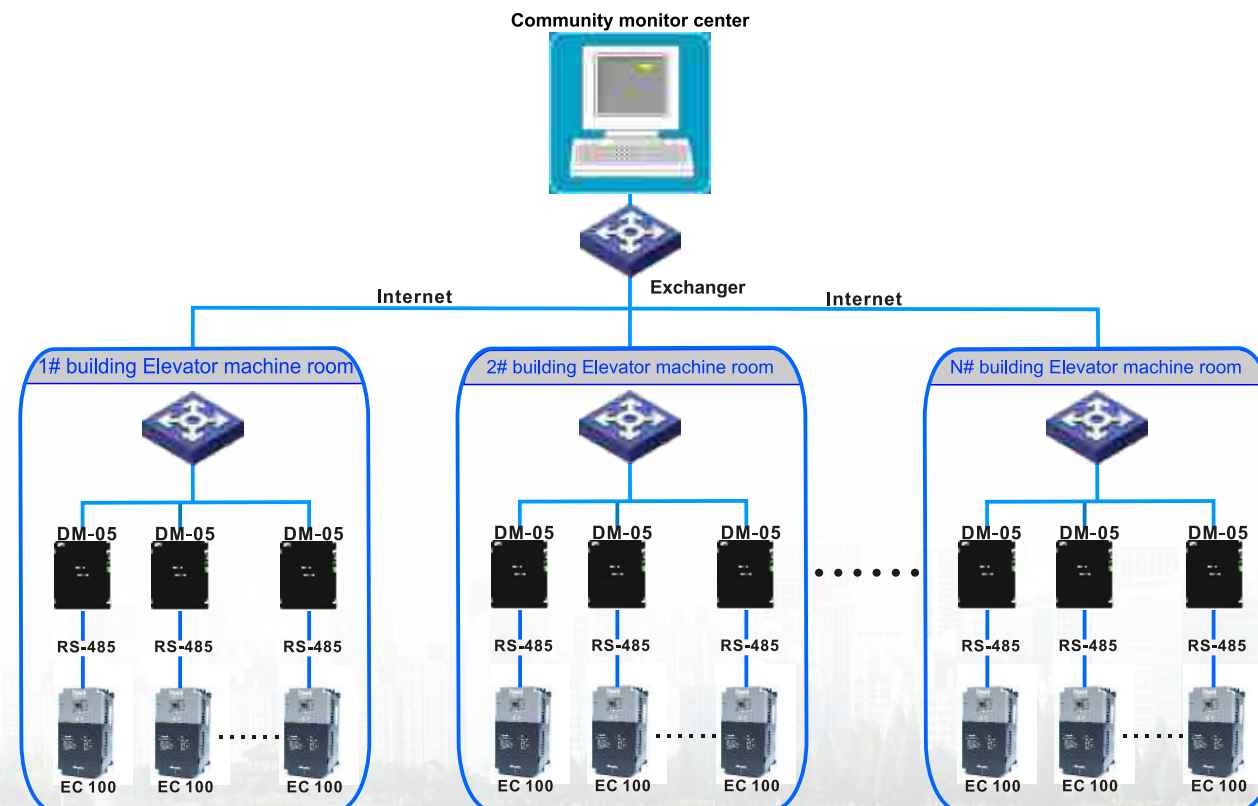
Network monitor module DM-05 is management and transmission module of elevator monitoring or maintenance. It may transfer spot RS485 or CAN protocol to standard TCP/IP protocol to realize remote accessing and control. Simultaneously it analyzes and saves collected signal, including maintenance records etc., to enhance the management of maintenance technicians. So the maintenance center may set up database of elevator operation

Product Features

- Real-time monitor system on the basis of network
- Dynamic real-time monitoring operation and early warning, saving in local SD memory and remote access server with black box function
- Real-time failure records and warning through collection of signal, analysis of failure and records of operation and failure
- Supervision and management of maintenance technician, real-time records of maintenance technician' work
- Extensible function for realizing wireless monitor through wireless monitor module
- ModBus protocol applied, RS485 compatible
- CAN port compatible, USB password-lock compatible



Ethernet LAN monitor system



Elevator Control Cabinet

Product Features

- Based on EC100/EC160 elevator intelligent integrated machine (Integrated drive control)
- Max. speed: 6m/s, Max floor: 64
- Single elevator, parallel connection and group control
- CANBUS communication
- Leveling accuracy: 2mm
- Safety standard: EN81 and GB7588



Control cabinet DSC-EC100-VVVF
Dimension : 1200*600*330(mm)



Control cabinet DSC-EC100-VVVF
Dimension : 1000*590*320(mm)



Machine Room-less control cabinet DSC-EC100-VVVF-MRL
Dimension : 1600*450*270(mm)

Power Degree

Model	Input Voltage	Rated Output Power(kW)	Rated Output Current (A)	Dimension(mm)
DSC-EC100-VVVF-1R5	AC 220V ± 15%	1.5	5.5	1000*590*320
DSC-EC100-VVVF-2R2		2.2	11	1000*590*320
DSC-EC100-VVVF-004	3AC 380V ± 15%	4	10	1000*590*320
DSC-EC100-VVVF-5R5		5.5	14	1000*590*320
DSC-EC100-VVVF-7R5		7.5	18	1000*590*320
DSC-EC100-VVVF-011		11	27	1000*590*320
DSC-EC100-VVVF-015		15	34	1000*590*320
DSC-EC100-VVVF-018		18	38	1000*590*320
DSC-EC100-VVVF-022		22	46	1200*600*320
DSC-EC100-VVVF-030		30	62	1200*600*320
DSC-EC100-VVVF-MRL-1R5	AC 220V ± 15%	1.5	5.5	1600*450*270
DSC-EC100-VVVF-MRL-2R2		2.2	11	1600*450*270
DSC-EC100-VVVF-MRL-004	3AC 380V ± 15%	4	10	1600*450*270
DSC-EC100-VVVF-MRL-5R5		5.5	14	1600*450*270
DSC-EC100-VVVF-MRL-7R5		7.5	18	1600*450*270
DSC-EC100-VVVF-MRL-011		11	27	1600*450*270
DSC-EC100-VVVF-MRL-015		15	34	1600*450*270

Inspection Box

Product Features

- Apply plug-in wiring, easy to install, easy to maintain
- Inspection box equipped with EC-CTB, to simplify the COP-Car operation panel wiring
- CANBUS communication
- Safety standard: EN81, GB7588



Car top inspection box
Appearance dimension : 520X340X120(HXWXDmm)



Pit inspection box
Appearance dimension ,
Main : 500X325X250 Subsidiary : 140X72X60(HXWXDmm)

COP-Car Operation and Hall Operation Panel

Dimension of COP-Car operation panel

Floor	Dimension of panel(L×W mm)	Dimension of bottom case(L×W×D mm)
2-10	1200X180	1180X157X77
11-18	1360X180	1340X157X77
19-24	1580X180	1540X157X77
25-36	1520X220	1500X200X77

Dimension of Hall Operation Panel

Name	Dimension of panel (L×W mm)	Dimension of bottom case (L×W×D mm)	Note
Single-elevator external calling box	440X100	419X80X62.5	When the display board is DC-07B or DC-07C
Parallel external calling box	440X170	419X150X62.5	
Single-elevator external calling box	440X115	419X80X95	
Parallel external calling box	440X200	419X150X183	

Selection Instruction

- Board of COP-Car operation and hall operation panel configured with hairline stainless steel (as INVT420), titanium mirror (as INVT380) etc. is optional ;
- Display board can adapt these products: DC-03A, DC-03B, DC-07B, DC-07C, DC-07H, LM20;
- Buttons for option: LW-24M, LW-25M, LW27, LW-31(DC24V, red-light is standard, Braille is optional)



Sales Network



- ★ Headquarter: Shenzhen INVT Electric Co., Ltd
- Subsidiary: INVT Electric India Pvt.Lt ; INVT INTERNATIONAL TRADING LIMITED
- Established Office: Bangkok、 St. Petersburg、 Moscow、 Sydney、 Mexico City、 Sao Paulo、 Warsaw
- ▲ Global Service Center: Turkey、 Pakistan、 Ukraine、 Vietnam、 Russia 、 Indonesia、 Thailand、 India、 South Africa、 Myanmar