High performance · Reliability · Flexibility · Convenience

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Elevator Electrical Control System and Accessory Components Selection Guide

FAITHFULNESS | RESPONSIBILITY | CREATIVITY | EXCELLENCE

CE

Shenzhen V&T Technologies Co.,Ltd.

Listed Company,Stock Code:300484

CONTENTS

Elevator Control Cabinet

▶ Elevator Integrated Controller

Model Description

AIEC 3300 - C - 4 015 - XX

Items	Product Series
AIEC	AICE Series Elevator Controller

Items	Applicable Elevator Type
1000	Cargo Elevator
1300	
2000	Escalator
2300	
3000	Passenger Elevator
3300	

Items	Applicable Motor Type
A	Asynchronous Motor
B	Synchronous Motor
C	Both Asynchronous Motor and Synchronous Motor

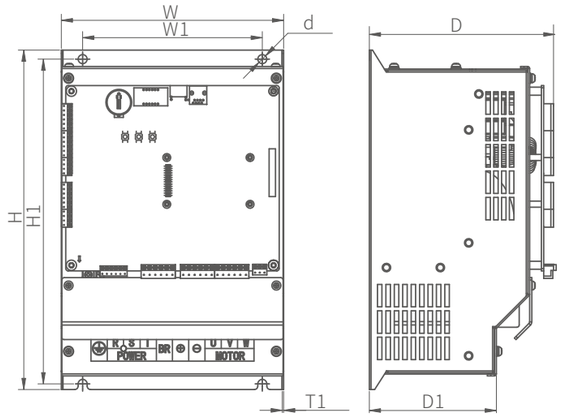
Structure version, defaults to the manufacturer's default version

Items	Power
002	2.2kW
003	3.7kW
...	...
075	75kW

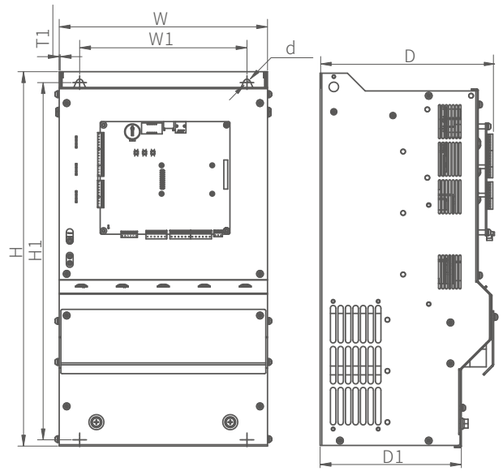
Items	Input Voltage
2	Single/ three-phase 220V
4	Three-phase 380V

Rated Power	2.2 ~ 75kW
Elevator speed	0.250 ~ 4.000m/s
Maximum floors	40 floors
Wiring mode	Modular terminal block
Communication mode	Optimized high-speed Modbus and CAN communication
Input voltage	220~240V（2.2 ~ 30 kW）
	380~440V（2.2 ~ 75 kW）
Applicable tractor	Tractor with asynchronous motor, tractor with synchronous motor
Motor control mode	High performance vector control with encoder, also supports low speed operation without encoder
Multiple elevators running mode	Signal elevator control, parallel control (Less than 4 elevators), group control (from 3 to 8 elevators)
Applicable elevator type	Passenger elevator, cargo elevator, hospital bed elevator, residential elevator, sightseeing elevator, villa elevator, etc.
Expansion port	Mobile phone commissioning,upgrade the software via serial port, and monitor the status through the IOT module.

Product Appearance, Installation Dimensions and Approximate Weight



Power range from AIEC3300－C－4007 to AIEC3300－C－4022



Power range from AIEC3300－C－4030 to AIEC3300－C－4075

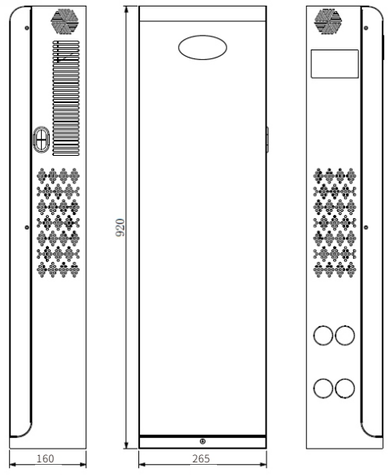
Input Voltage（V）	Integrated Elevator Controller Model	Installation Dimensions（mm）							Approximate weight（kg）
		W	H	D	W1	H1	T1	Mounting hole d	
Single-phase / three-phase 220V	AIEC3300－C－4005－220	198	302	145	160	289	1.2	8	6
	AIEC3300－C－4007－220	198	302	164	160	289	1.5	8	8
	AIEC3300－C－4011－220								
	AIEC3300－C－4015－220								
	AIEC3300－C－4018－220	223	351	195	195	335	1.5	8	10
	AIEC3300－C－4022－220								
	AIEC3300－C－4030－220	264	430	222	230	418	1.5	8	18
	AIEC3300－C－4037－220								
	AIEC3300－C－4045－220	305	548	255	245	523	1.5	10	35
	AIEC3300－C－4055－220								
Three-phase 380V	AIEC3300－C－4002	198	302	145	160	289	1.2	8	6
	AIEC3300－C－4003								
	AIEC3300－C－4005								
	AIEC3300－C－4007	198	302	164	160	289	1.5	8	8
	AIEC3300－C－4011								
	AIEC3300－C－4015								
	AIEC3300－C－4018	223	351	195	195	335	1.5	8	10
	AIEC3300－C－4022								
	AIEC3300－C－4030	264	430	222	230	418	1.5	8	18
	AIEC3300－C－4037								
	AIEC3300－C－4045	305	548	255	245	523	1.5	10	35
	AIEC3300－C－4055								
	AIEC3300－C－4075	338	580	310	270	560	1.5	10	52

Elevator Integrated Controller Series

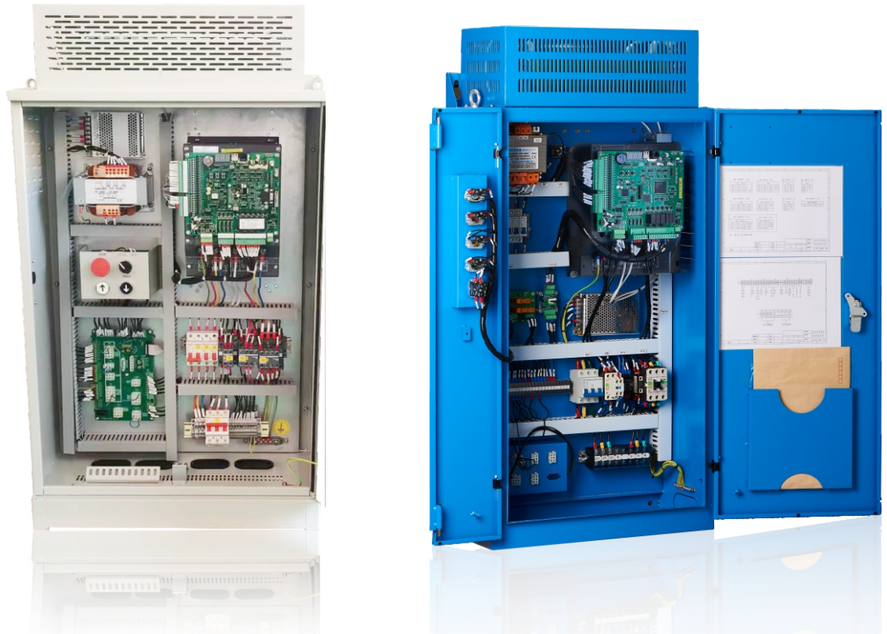
Model	Input voltage	Rated output power(kW)	Rated input current(A)	Rated output current(A)	Applicable motor power(kW)
AIEC3300—C—4005—220	Single-phase 220V	1.5	14	7.5	1.5
AIEC3300—C—4007—220		2.2	19	10	2.2
AIEC3300—C—4011—220		3.7	26	14	3.7
AIEC3300—C—4015—220		4.0	33	16	4.0
AIEC3300—C—4018—220		5.5	43	20	5.5
AIEC3300—C—4005—220	Three-phase 220V	2.2	15	13	2.2
AIEC3300—C—4007—220		3.7	19	17	3.7
AIEC3300—C—4011—220		5.5	26	25	5.5
AIEC3300—C—4015—220		7.5	33	32	7.5
AIEC3300—C—4018—220		11	43	37	11
AIEC3300—C—4022—220		11	50	45	11
AIEC3300—C—4030—220		15	66	60	15
AIEC3300—C—4037—220		18.5	83	75	18.5
AIEC3300—C—4045—220		22	100	90	22
AIEC3300—C—4055—220		30	123	110	30
AIEC3300 —C—4002	Three-phase 380V	2.2	6.1	5.5	2.2
AIEC3300 —C—4003		3.7	10	9	3.7
AIEC3300 —C—4005		5.5	15	13	5.5
AIEC3300 —C—4007		7.5	19	17	7.5
AIEC3300 —C—4011		11	26	25	11.0
AIEC3300 —C—4015		15	33	32	15.0
AIEC3300 —C—4018		18.5	43	37	18.5
AIEC3300 —C—4022		22	50	45	22
AIEC3300 —C—4030		30	66	60	30
AIEC3300 —C—4037		37	83	75	37
AIEC3300 —C—4045		45	100	90	45
AIEC3300 —C—4055		55	123	110	55
AIEC3300 —C—4075		75	168	152	75

► Integrated Control Cabinet for Villa Elevator

Model	AIEC9300 -V
Structure type	Vertically-mounted
Size (Width*Height*Depth,mm)	265*920*160
Elevator Speed	⩽1m/s
Maximum Floors	10 floors
Input Power	Three phase 380V 50/60Hz Single phase 220V 50/60Hz
Rated current	Single phase 220V : 10A, three phase380V : 13A
Applicale Motor Type	Permanent magnet synchronous motors, asynchronous motors
Motor Control Mode	Vector control with encoder
Encoder	Sin-Cos encoder (5V)
Commissioning Tools	Operation panel



► Integrated Control Cabinet for Machine Room



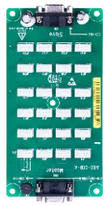
Model	AIEC-CB1	AIEC-CE1	AIEC-CF1
Machine room	Machine room		
Size (Width*Height*Depth,mm)	492*1120*220	558*1248*278	632*1398*366
Installation mode	Wall-mounted		Floor-mounted
Rated power	2.2~15kW	18.5~37kW	45~75 kW
Input power supply	Three phase 380V (200V)50/60Hz, single phase 220V 50/60Hz		
Applicable motor	Permanent magnet synchronous motors, asynchronous motors		
Applicable brake	DC110V<6A,DC220V/DC110V<4A,AC220V<4A Other can be customized		
Applicable door machine	Frequency converter door machine, DC resistor door machine		
Brake resistor	Built-in installation		
Cabinet color	Grey, silver white, blue (Other colors can be customized)		
Contactor	Schneider, Fuji, Siemens, etc.		
Socket type	AMP plug-in type, terminal block, interface board		

► Integrated Control Cabinet for Machine Room-less

Model	AIEC - CW1
Machine room	Machine room-less
Size (Width*Height*Depth,mm)	420 * 1400 *240
Installation mode	Floor-mounted
Rated power	2.2~15kW
Input power supply	Three phase 380V (200V)50/60Hz, single phase 220V 50/60Hz
Applicable motor	Permanent magnet synchronous motors, asynchronous motors
Applicable brake	DC110V<6A, DC220V/DC110V<4A, AC220V<4A Other can be customized
Applicable door machine	Frequency converter door machine, DC resistor door machine
Brake resistor	Built-in installation
Cabinet color	Grey, silver white, blue (Other colors can be customized)
Contactor	Schneider, Fuji, Siemens, etc.
Socket type	AMP plug-in type, terminal block, interface board

Elevator Electrical System Accessory Components

Name	Appearance	Description
Main Control Board	 AIEC-MCB-A	Dimensions (mm): 190*165 / Mounting dimensions (mm): 180*155 / Mounting hole diameter (mm): Φ4.5 • Advanced dual 32-bit CPU and FPGA are used in elevator controller. • Elevator's maximum speed is up to 4m/s. • Multiple elevators running mode: signal elevator control, parallel control (less than 4 elevators), and group control (from 3 to 8 elevators). • 3-digit digital tube display and 3-digit operation keypad. • Support multiple display modes: seven segment LED, BCD code, Gray code，etc. • With fault diagnosis function, 60 or more faults histories can be recorded.
New National Standard Main Control Board	 AIEC-MCB-B	Dimensions (mm): 190*165 / Mounting dimensions (mm): 180*155 / Mounting hole diameter (mm): Φ4.5 • Support the new national standard hardware requirements and 12V power supply under system power failure. • Advanced dual 32-bit CPU and integrated elevator control logics. • Elevator's maximum speed is up to 4m/s. • Multiple elevators running modes: signal elevator control, parallel control (less than 4 elevators), and group control (from 3 to 8 elevators). • 3-digit digital tube display and 3-digit operation keypad. • Support multiple display modes: seven segment LED, BCD code, Gray code, etc. • With fault diagnosis function, 60 or more faults histories can be recorded.
Car Top Board	 AIEC-CTB	Dimensions (mm): 162*125 / Mounting dimensions (mm): 152*115 / Mounting hole diameter (mm): Φ4.5 • Adopt 32-bit CPU, serial communication, stable and reliable communication, convenient wiring. • With 8 digital inputs and 10 relay outputs. • Support car digital input / analog load cell signal input. • Digital inputs and digital outputs are programmable.
Car Top Board	 AIEC-CTB-A2	Dimensions (mm): 162*125 / Mounting dimensions (mm): 152*115 / Mounting hole diameter (mm): Φ4.5 • Adopt 32-bit CPU, serial communication, stable and reliable communication, convenient wiring. • With 14 digital inputs and 10 relay outputs. • Support leveling communication, car top inspection and door motor over temperature protection. • Support 18-cores cable and elevator comfort with words. • Support car digital input / analog load cell signal input. • Digital inputs and digital outputs are programmable.

Name	Appearance	Description
Car Call Board	 AIEC-CCB	Dimensions (mm): 158*79 / Mounting dimensions (mm): 148*69 / Mounting hole diameter (mm): Φ4.5 • Support main COP and auxiliary COP in the elevator car. • Support attendant input, direct running input, firefighters input and runs independently input. • Support overload buzzer alarm output. • One car call board can support 16 floors and it can be cascaded, with maximum support 48 floors .
Car Call Board	 AIEC-COB-A1	Dimensions (mm): 229*81 / Mounting dimensions (mm): 217*69 / Mounting hole diameter (mm): Φ4.5 • Support main COP and auxiliary COP in the elevator car. • Every CCB can support a maximum 16 floors, integrated voice broadcast, car display, intercom, fan, lighting, emergency lights and other interfaces. • Supports attendant input, direct running input, firefighters input and runs independently input. • Support overload buzzer alarm output. • One car call board can support 16 floors and it can be cascaded, with maximum support 48 floors .
Encoder Speed Feedback Card	 AIEC-PG-A  AIEC-PG-D  AIEC-PG-E	Dimensions (mm): 83*55 / Mounting dimensions (mm): 75*42 / Mounting hole diameter (mm): Φ3 • Support encoder types: open collector, push-pull and SIN/COS. • Support OA and OB quadrature signal output. • Encoder direction can be obtained by auto-tuning.
Encoder Speed Feedback Card (U shape)	 AIEC-PG-E2	Dimensions (mm): 86*74 / Mounting dimensions (mm): 74.2*41.7 / Mounting hole diameter (mm): Φ4.5 • Support SIN/COS encoders. • Support 12V emergency power input of the main control board . • Support detection functions of car movement direction and speed .

Elevator Electrical System Accessory Components

Name	Appearance	Description
Extension Car Call board	 AIEC-CCB-F1	Dimensions (mm): 105*81; Mounting dimensions (mm): 92*69; Mounting hole diameter (mm): Φ4.5 • Support 8 floors command input. • The extension car call board needs to be cascaded on the COB board. • The address of the extension car call board can be set by DIP SW1.
Safety Board	 AIEC-SCB-D	Dimensions (mm): 148*72; Mounting dimensions (mm): 132*56; Mounting hole diameter (mm): Φ4.5 • Realize car accidental movement protection. • Realize short circuit detection function of lock. • Realize the function of opening and re-leveling. • Realize the function of door opening in advance. • Compatible with 3 or 4 sensor signal inputs.
Pit Inspection Board	 AIEC-PIB-B1	Dimensions (mm): 133*81; Mounting dimensions (mm): 121*69; Mounting hole diameter (mm): Φ4.5 • The pit communication inspection function is realized through hall call 485 communication. • Integrated detection function of pit entering and exiting.
Car Top Interface Board	 AIEC-CTB-H5	Dimensions (mm): 251*243; Mounting dimensions (mm): 227*220; Mounting hole diameter (mm): Φ4.5 • With car top control board and connecting board function. • Support 18 core cables. • Meet the requirements of the new national standard.

Name	Appearance	Description
IoT modules	 AIEC-IOT-WL	Dimensions (mm): 123*74*29; Mounting dimensions (mm): 117*4.5; Mounting hole diameter (mm): Φ4.5 • Supported network: 2G/3G/4G network. Function: • Through V&T IOT Cloud Platform, The elevator operation status can be monitored remotely. • Various methods (WeChat, SMS, email) push elevator fault, alarm and other information to maintenance staff. • The elevator components information can be monitored in real time and reported to the relevant supervision unit according to the requirements.
LED Display	 AIEC-DCB-H1, AIEC-DCB-R1	Dimensions (mm): 133*72; Mounting dimensions (mm): 118*60; Mounting hole diameter (mm): Φ4 • Rolling display of elevator running direction and current floor. • Ultra-thin design with various colors,horizontal and vertical display are optional. • Support overload, full load, stop, fault, inspection maintenance and other status display.
LCD Display	 AIEC-DCB-D1, AIEC-DCB-V1	Dimensions (mm): 138*76; Mounting dimensions (mm): 118*60; Mounting hole diameter (mm): Φ4 • Fast hall call communication, the latest signal acquisition of any call is completed within 60 ms. • 4.3 inch LCD display, horizontal and vertical display are optional. • Ultra-thin design with various colors. • Indication function is available: overload, inspection, fire fighting and stop state, etc. • Screen size: 4.3-inch.
Multimedia Display	 AIEC-DCB-T	Dimensions (mm): 115*189; Mounting dimensions (mm): 80*181.1; Mounting hole diameter (mm): Φ4.5 • Adopt TFT LCD screen with 24-bit/32-bit width, and various scales are available. • With background pattern automatic switching function, support for changing display text, with voice announcement and play background music functions. • Support for inserting USB flash disk or SD card, convenient for secondary development. • Support the display of various statuses, such as overload, full load, stop status, fault status, inspection status, etc. • Screen size: 7-inch.

Human Machine Interface

▶ Split COP

▼

AIEC-COP-101

▼

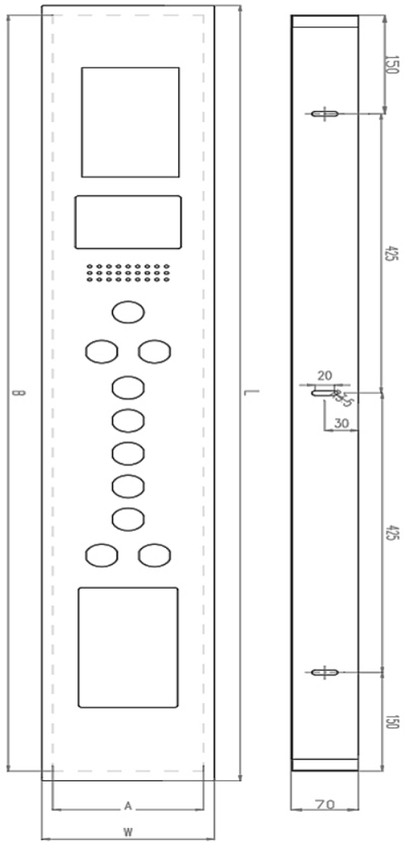
AIEC-COP-104

▼

AIEC-COP-106

▼

AIEC-COP-107



Floors Specifications

Floors	L(mm)	W(mm)	D(mm)	B(mm)	A(mm)
2-10	1180	180	70	1150	157
11-18	1380	180	70	1350	157
19-26	1580	180	70	1550	157
27-36	1520	220	70	1480	197

Note: It is recommended that the opening size is 1.5~2mm wider than the bottom case of the COP.

LED
HCB-R1

Segment LCD
CCB-L

True color LCD
CCB-T7

Round button
AN1

Square button
AN2

▶ Integrated COP

▼

AIEC-COP-109

▼

AIEC-COP-110

▼

AIEC-COP-111

▼

AIEC-COP-112

Floors Specifications

Floors	L(mm)	W(mm)	D(mm)	B(mm)	A(mm)
2-10	1180	180	70	1150	157
11-18	1380	180	70	1350	157
19-26	1580	180	70	1550	157
27-36	1520	220	70	1480	197

Note: It is recommended that the opening size is 1.5~2mm wider than the bottom case of the COP.

LED
HCB-R1

Segment LCD
CCB-L

7/8/10/12 inch
true color LCD
CCB-T7/8/10/12

Round button
AN1

Square button
AN2

Human Machine Interface

▶ Split COP for Villa Elevator

AIEC-COP-113

AIEC-COP-114

AIEC-COP-115

AIEC-COP-116

AIEC-COP-117

AIEC-COP-118

Dimensions

Model	L(mm)	W(mm)	D(mm)
AIEC-COP-113	800	157	40
AIEC-COP-114	246	366	40
AIEC-COP-115	800	157	40
AIEC-COP-116	650	250	70
AIEC-COP-117	800	180	20
AIEC-COP-118	252.4	99.4	20

Note: It is recommended that the opening size is 1.5~2mm wider than the bottom case of the COP.

LED
HCB-R1

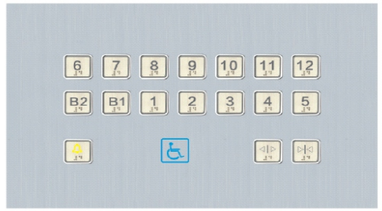
Segment LCD
CCB-L

True color LCD
CCB-T7

Round button
AN1

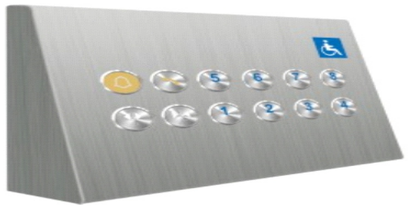
Square button
AN2

▶ Auxiliary COP



AIEC-COP-119
(With bottom case)

AIEC-COP-120
(Without bottom case)



AIEC-COP-121
(Without bottom case)

AIEC-COP-122
(With bottom case)

Dimensions

Model	L(mm)	W(mm)	D(mm)
AIEC-COP-119 (With bottom case)	485	300	50
AIEC-COP-120 (Without bottom case)	485	300	25
AIEC-COP-121 (Without bottom case)	485	300	50
AIEC-COP-122 (With bottom case)	485	300	50

Note: It is recommended that the opening size is 1.5~2mm wider than the bottom case of the COP.

Round button
AN1

Square button
AN2

Human Machine Interface

▶ Hall Call Box for Passenger Elevator

AIEC-HOP-501

AIEC-HOP-G

AIEC-HOP-O

AIEC-HOP-P6

AIEC-HOP-C1

AIEC-HOP-H2

Dimensions

Model	L(mm)	W(mm)	D(mm)	Type
AIEC-HOP-501	335	90	12	1. UP button 2. UP and DOWN button 3. UP button with lock / DOWN button with lock 4. DOWN button 5. UP and DOWN button with lock
AIEC-HOP-G	330	100	12	
AIEC-HOP-O	310	90	12	
AIEC-HOP-P6	310	100	12	
AIEC-HOP-C1	380	100	20	
AIEC-HOP-H2	330	100	12	

LED
HCB-R1

Segment LCD
CCB-L

▶ Hall Call Box for Villa Elevator

AIEC-HOP-601

AIEC-HOP-602

AIEC-HOP-603

AIEC-HOP-604

AIEC-HOP-605

AIEC-HOP-607

AIEC-HOP-608

AIEC-HOP-609

Dimensions

Model	L(mm)	W(mm)	D(mm)
AIEC-HOP-601	250	88	13
AIEC-HOP-602	250	88	13
AIEC-HOP-603	250	88	13
AIEC-HOP-604	116	42	15
AIEC-HOP-605	78	78	17
AIEC-HOP-607	78	78	17
AIEC-HOP-608	90	109	25
AIEC-HOP-609	176	200.5	38

LED
HCB-R1

Segment LCD
CCB-L

True color LCD
CCB-T7

Electrical Components

AIEC-DYX-01
Machine room power supply box

AIEC-JDX-01
Car top inspection box for passenger elevator

AIEC-JDX-02
Car top inspection box for villa elevator

AIEC-ARD-01
Emergency leveling device for passenger elevator

AIEC-SRD-01
Emergency leveling device when power failure for villa elevator (built-in control cabinet)

AIEC-HK-01
Regenerative braking unit

AIEC-DKH-01
Pit inspection box and pit emergency stop box

AIEC-GTH-01
High platform emergency stop box

AIEC-TMH-01
Hall door emergency stop box

AIEC-SZ-01
Electric brake release device

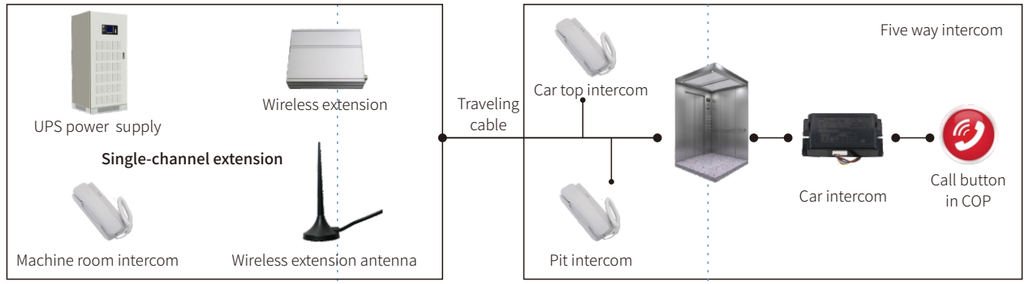
AIEC-WYQ-01
Three-phase voltage stabilizer

AIEC-BY1-01
Three-phase transformer

AIEC-PC-01
Leveling switch

AIEC-DJJ-01
Elevator five-way intercom

AIEC-JDK-01
Shaft switch



AIEC-WX-01
Wireless intercom system

AIEC-ZM-01
Shaft lighting

AIEC-JDK-01
Load cell switch

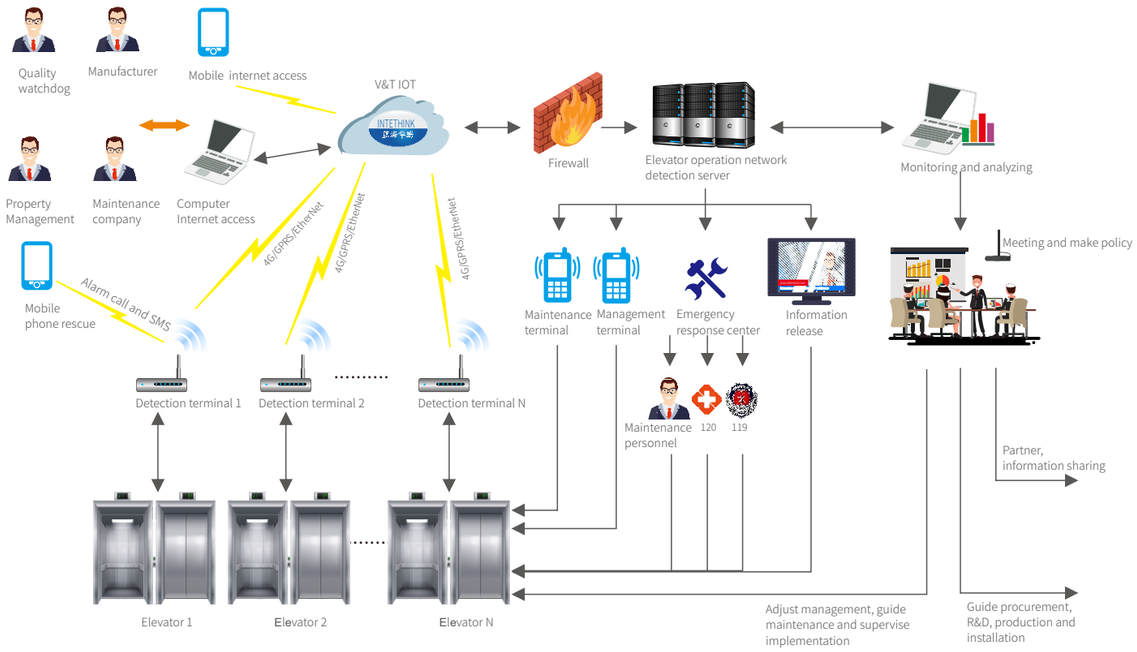
AIEC-P24-SG100
Voice announcer

AIEC-WX-02
One-key rescue ,
(built-in installation, SIM card inserted)

AIEC-WX-03
One-key rescue
(built-in installation, SIM card inserted)

AIEC-WX-04
Rescue telephone
(external installation, 9-key telephone)

Elevator Internet of Things



V&T has built a complete set of IoT system from the elevator end to the cloud end, which integrates data collection, data processing and data presentation functions, and provides uninterrupted services at 7 * 24 hours.

Through the integration, calculation and analysis of the database, we can provides a reliable industrial Internet of Things complete solution for elevator applications.

Platform Structure

PC END:

Adopt modular design, each corresponding module can be configured according to the customer's requirements, such as equipment management, equipment monitoring, equipment fault management, etc., with strong expansion ability, and can locate any elevator, and obtain real-time operation data, etc.

Mobile END:

The mobile terminal can view and monitor the location information and measuring point data of each elevator. The operating frequency, operating current and voltage of the elevator controller can be convenient obtained .