





Monarch "Integrated Solution" Family	NICE3000+ Serial Communication Elevator High Performance Integrated Controller 	NICE1000+ Parallel Communication Elevator Generalpurpose Integrated Controller 
Applications	<ul style="list-style-type: none"> Simplex, Duplex and 3~8 Group Elevator Control type of elevators High Speed, Medium speed, Low speed Commercial elevator, residential elevator, villa elevator, passenger elevator, hospital elevator, disabled elevator etc., Elevator rated speed ≤4.0m/sec Supports up to 40 floors as a standard; can adapt up to max. 64 floors 3 mode of door operation mode: Manual, Semi-Auto, Auto 	<ul style="list-style-type: none"> Simplex and Duplex Elevator Control Function Medium speed, Low speed Residential elevator, freight elevator, villa elevator, passenger elevator, hospital elevator, etc., Elevator rated speed ≤1.5m/sec Supports up to 8 floors as a standard ; Expandable up to max 16 floors(Full Collective) with Expansion board (MCTC-KZ-D) 3 mode of door operation mode: Manual, Semi-Auto, Auto
Applicable motor type	Asynchronous (Induction) motor Synchronous Permanent magnet motor	Asynchronous (Induction) motor Synchronous Permanent magnet motor
Control technology	Closed Loop Vector control	Closed Loop Vector control
Power Rating	2.2kW to 160kW	2.2kW to 55kW
AC Voltage	1Ø, 220Vac to 240Vac (-15% to 10% : 187Vac to 264Vac) 3Ø, 220Vac to 240Vac (-15% to 10% : 187Vac to 264Vac) 3Ø, 380Vac to 480Vac (-15% to 10% : 323Vac to 528Vac)	1Ø, 220Vac to 240Vac (-15% to 10% : 187Vac to 264Vac) 3Ø, 220Vac to 240Vac (-15% to 10% : 187Vac to 264Vac) 3Ø, 380Vac to 480Vac (-15% to 10% : 323Vac to 528Vac)
Start torque	0Hz/200% (Closed Loop)	0Hz/200% (Closed Loop)
Speed control range	1 : 1000 (Closed Loop)	1 : 1000 (Closed Loop)
Speed accuracy	±0.05% (Closed Loop)	±0.05% (Closed Loop)
Torque control accuracy	±5% (Closed Loop)	±5% (Closed Loop)
Overload capability	150% rated current for 60 seconds; 200% rated current for 1 second	150% rated current for 60 seconds; 200% rated current for 1 second
Group control function	Yes, Duplex is standard. With optional MCTC-GCB card, group control of 3 to 8 elevators is possible	Duplex onboard group control (CANbus 2-Wire)
Motor Parameter auto-tuning	Yes, Static (without brake opening) and rotating auto-tuning for asynchronous (induction) and PM synchronous motor with load and without load	Yes, Static (without brake opening) and rotating auto-tuning for asynchronous (induction) and PM synchronous motor with load and without load
Acceleration/Deceleration	Based on displacement calculation methods derive N velocity profile to achieve optimum direct-to-point distance control	Based on displacement calculation methods derive N velocity profile to achieve optimum direct-to-point distance control
Re-levelling function	Yes. On the occasion when elevator stops at the floor level and a large number of persons or goods enter or leaves, the levelling fluctuates because of the elastic deformation of elevator wire ropes and rubber. With this intelligent Re-levelling function, the system is allowed to run automatically at the re-levelling speed to the floor level with door open. Requires MCTC-SCB-A	Yes. On the occasion when elevator stops at the floor level and a large number of persons or goods enter or leaves, the levelling fluctuates because of the elastic deformation of elevator wire ropes and rubber. With this intelligent Re-levelling function, the system is allowed to run automatically at the re-levelling speed to the floor level with door open. Requires MCTC-SCB-A
Direct-to-floor function	Yes. By the principle of distance, automatically generates the smooth curves from start of parking, no crawling, directly stop in the levelling position	Yes. By the principle of distance, automatically generates the smooth curves from start of parking, no crawling, directly stop in the levelling position
Forced deceleration	New and reliable compulsive terminal deceleration function helps to identify the deceleration point automatically	New and reliable compulsive terminal deceleration function helps to identify the deceleration point automatically
Shaft parameter self-learning	32-Bit data, record the elevator car shaft position before first run	32-Bit data, record the elevator car shaft position before first run
Levelling adjustment	Individual floor levelling adjustment function through COP	Individual floor levelling adjustment function through COP
Real time clock	In-built real time clock to facilitate time-sharing control and elevator management	N/A
Digital I/O	24 Digital input terminals (Specification: +24Vdc, 5mA) 3 dedicated inputs for safety circuit (Support 110Vac or 110Vdc)	24 Digital input terminals (Specification: +24Vdc, 5mA) 3 dedicated inputs for safety circuit (Support 110Vac or 110Vdc) 50 input/output terminals with MCTC-KZ-D
Analog I/O	1 analog input terminal for load cell (Specification: -10 to +10Vdc)	1 analog input terminal for load cell (Specification: -10 to +10Vdc)
Relay	6 relay output terminals (250Vac/5A, 30Vdc/5A) with programmable function	Onboard 21 relays, additional 7 relays with MCTC-KZ-D output terminals (250Vac/5A, 30Vdc/5A) with programmable function
Communication	2 CANbus (For Car Top Board and Duplex functions) 1 Modbus (For Hall Call Board)	1 CANbus Port (For Duplex group control)
Encoder Feedback	<ul style="list-style-type: none"> Optional encoder cards for PMSM (Gearless) <ul style="list-style-type: none"> i. MCTC-PG-E : Weton SinCos EI58C9.25/ERN1387 encoder with C,D signals, 5Vdc, 2048PPR ii. MCTC-PG-F1 : Absolute SinCos ECN1313/ECN413 encoder with EnDat 2.0/2.1 serial communications, 5Vdc, 2048PPR iii. MCTC-PG-D : Quadrature incremental encoder (A+,A-,B+,B-) with UVW communication signals, 5Vdc, 8192PPR Optional encoder cards for Induction motor (Geared) <ul style="list-style-type: none"> i. MCTC-PG-A2 : Incremental encoder single ended (A,B signals, 12Vdc) ii. MCTC-PG-D : Quadrature incremental encoder (A+,A-,B+,B- signals, 5Vdc HTL) 	<ul style="list-style-type: none"> Optional encoder cards for PMSM (Gearless) <ul style="list-style-type: none"> i. MCTC-PG-E : Weton SinCos EI58C9.25/ERN1387 encoder with C,D signals, 5Vdc, 2048PPR ii. MCTC-PG-F1 : Absolute SinCos ECN1313/ECN413 encoder with EnDat 2.0/2.1 serial communications, 5Vdc,2048PPR iii. MCTC-PG-D : Quadrature incremental encoder (A+,A-,B+,B-) with UVW communication signals, 5Vdc,8192PPR Optional encoder cards for Induction motor (Geared) <ul style="list-style-type: none"> i. MCTC-PG-A2 : Incremental encoders single ended (A,B signals, 12Vdc) ii. MCTC-PG-D : Quadrature incremental encoder (A+,A-,B+,B- signals, 5Vdc HTL)
Braking Unit	Built-in (Up to 30kW)	Built-in (Up to 30kW)

Monarch Drive Family	MD380L Open Loop Elevator Drive 	NICE900 Elevator Door Drive 
Applications	<ul style="list-style-type: none"> Open Loop elevator drive Low Speed and Low rise Rated speed up to 1m/s 	<ul style="list-style-type: none"> Elevator car door Subway car door Various door control applications
Applicable motor type	Asynchronous (induction) motor	Asynchronous (induction) motor (with/without encoder) Synchronous permanent magnet motor (with encoder)
Control technology	Open Loop VF control Sensorless Vector control (SVC)	Open Loop Vector Control Closed Loop Vector control
Power Rating	3.7kW to 15kW	200W, 400W, 750W
AC Voltage	3Ø, 380Vac to 480Vac (-15% to 10% : 323Vac to 528Vac) 1Ø, 200Vac to 240Vac (-15% to 10% : 187Vac to 264Vac)	1Ø, 220Vac to 240Vac (-15% to 10% : 187Vac to 264Vac)
Start torque	0.5Hz/180% (Open Loop)	1Hz/150% (Open Loop) 0Hz/180% (Closed Loop)
Speed control range	1 : 100 (Open Loop)	1 : 50 (Open Loop) 1 : 1000 (Closed Loop)
Speed accuracy	±0.5% (Open Loop)	±0.5% (Open Loop) ±0.05% (Closed Loop)
Torque control accuracy	±5% (Open Loop)	±5%(Closed Loop)
Overload capability	150% rated current for 60 seconds; 180% rated current for 1 second	150% rated current for 60 seconds; 180% rated current for 1 second
Group control function	N/A	N/A
Motor Parameter auto-tuning	Yes, Static and rotating auto-tuning for asynchronous (induction) motor with load and without load	Yes, Static and rotating auto-tuning for asynchronous (induction) and rotating tuning for PM synchronous motor with load or without load
Acceleration/Deceleration	Enhanced and flexible S-ramp	Enhanced and flexible S-ramp
Re-Levelling function	N/A	N/A
Direct-to-floor function	N/A	N/A
Forced deceleration	N/A	N/A
Shaft parameter self-learning	N/A	16-Bit data, record the elevator car door position before first run
Levelling adjustment	Flexible and easy floor levelling adjustment	Flexible and easy door open & close position adjustment function
Real time clock	N/A	N/A
Digital I/O	10 Digital input terminals (Specification: +24Vdc) 3 Digital output terminals (Specification: 0~24Vdc, 0~50mA)	8 Digital input terminals : Specification: opto-coupler 0 to +30Vdc
Analog I/O	3 analog input terminals; specification: AI1 & AI2 (0 to +10Vdc) & AI3 (±10Vdc) 2 analog output terminals; specification: 0 to 10Vdc, 0 to 20mA	1 analog input terminal AI1: 0 to +10Vdc (optional)
Relay	2 relay output terminals (250Vac/3A, 30Vdc/1A) with programmable function	3 relay output terminals (250Vac/3A, 30Vdc/1A) with programmable function
Communication	CAN bus communication Modbus bus communication	N/A
Encoder Feedback	Open Loop	<ul style="list-style-type: none"> Incremental, +15Vdc Push-Pull/open collector output General ABZ single-ended incremental encoder (with closed loop vector control PM motor)
Braking Unit	Built-in	N/A

NICE 1000+

A simple and cost effective Integrated Solution for elevators speed up to 1.5 m/s
 Simplex and Duplex applications with closed loop geared and gearless PM machines
 16 floors full collective using low cost conventional parallel wiring

Smooth Ride

- “Direct To Floor” technology, Waiting time optimises
- 4-Independent S-Ramps
- Default factory setting makes user friendly, gets started quickly
- Anti-Rollback without any external load cell (Gearless Machine)
- Pre-torque function (Analog signal from load cell for Geared Machine)

Features Highlight

- Standard 8 Floors full collective, expansion option to 16 Floors NEW (Conventional Parallel Wiring)
- Maximum speed 1.5m/sec NEW
- Duplex onboard group control (CANbus serial communication) NEW
- Double digits 7-segment display (Parallel connection) NEW
- Selectable door control mode (Manual, Semi-Auto, Auto) NEW
- Selectable Fireman operation
- Synchronous (PM Gearless Machine) or Asynchronous (Geared Machine)
- Single-Phase 220V UPS rescue mode operation ready with automatic light load search
- Comprehensive trip diagnostics
- Output frequency 0.0~100.0Hz
- High ambient temperature 45°C_{avg}
- Static Auto-tuning for asynchronous and synchronous machine(without brake opening) NEW

Enhanced reliability with conformal coating, protection against humidity and pollution dust

Design for high ambient temperature 45°C_{avg}

Wide operating voltage range 323 to 528Vac

Complies to EN81-1

Selectable Door Control Mode

Double digits 7-Segment display

Duplex onboard group control

Conventional parallel wiring 16-Floors Full Collective Mode

In-Built Dynamic Braking Unit

Flexible programmable I/O connection

Expansion I/Os (MCTC-KZ-D)

Standard Base Unit to 8 Floor Full Collective

Expansion to 16 Floor Full Collective

NICE 1000+

General Specifications

Ambient Temperature	Switching frequency 8kHz to 16kHz @ Max. 50°C (24-Hour average maximum 45°C)	
Installation Type	New Elevators or retrofit existing Elevators (MR or MRL)	
IP Rating	IP 00	
Motor Control	Synchronous (gearless) machines or induction (geared) machines	
Overload	150% for 60Sec, 200% for 1 sec	
Max. Speed	≤ 1.5 m/sec	
Group operation NEW	Duplex on-board group control (CANbus 2-Wire)	
Max. floors	≤ 16 landings with conventional wiring (9 to 16 landings require additional option board)	
Car wiring	Conventional parallel wiring with binary or Grey or Seven segment display function	
Landing wiring	Conventional parallel wiring with binary or Grey or Seven segment display function	
Door operation mode	3 Selectable mode control (Manual, Semi-Auto, Auto)	
Emergency Evacuation operation	1-phase 230Vac UPS ready (Sine Waveform) with automatic Light load search	
Encoder Type	Geared	<ul style="list-style-type: none"> ■ Incremental encoders, singled ended (A,B signals 10-30V HTL). Typically 1024PPR. Terminal block connector, internal mounting ■ Quadrature incremental encoders (A+,A-,B+,B- signals, 5V HTL)
	Gearless	<ul style="list-style-type: none"> ■ Weton SinCos EI58C9.25/ ERN1387 encoder with C,D signals ■ SinCos ECN1313/ECN 413 encoder with EnDat 2.0 serial communications ■ Quadrature incremental encoder (A+,A-,B+,B-) with UVW commutation signals
To be advise by customer by the time of order		
Automatic Settings	<ul style="list-style-type: none"> ■ Static Auto-tuning without brake opening NEW for Asynchronous and Synchronous machines ■ Elevator shaft position self-learning 	
Rollback prevention at start	<ul style="list-style-type: none"> ■ Pre-torque function (with an analogue signal from a load cell for geared machine) ■ Anti-rollback function (without any external load signal for gearless machine) 	
Additional features	<ul style="list-style-type: none"> ■ Direct-To-Floor landing ■ Short floor travel without any necessary hardware or settings ■ High stopping accuracy ■ Individual floor levelling adjustment through COP ■ PC-Based software for easy fine-tuning and software upgrade possibility 	<ul style="list-style-type: none"> ■ 3 dedicated inputs for safety circuit (Support 110Vac or 110Vdc) ■ Flexible programmable inputs and outputs ■ Special Elevator test menu ■ Automatic ON/OFF cooling fan ■ Double Door control ■ Automatic light-load search for rescue mode operation
Product Conformity	<ul style="list-style-type: none"> ■ Designed to meet CE Certifications ■ *Technical file can be provide upon request ■ EMC Directive 2004/18/EC ■ LVD Directive 2006/95/EC ■ 93/68/EEC ■ Specification complies with EN81-1 	
		EN 61800-3 EN 55011 EN 61000-6-2 EN 61800-5-1

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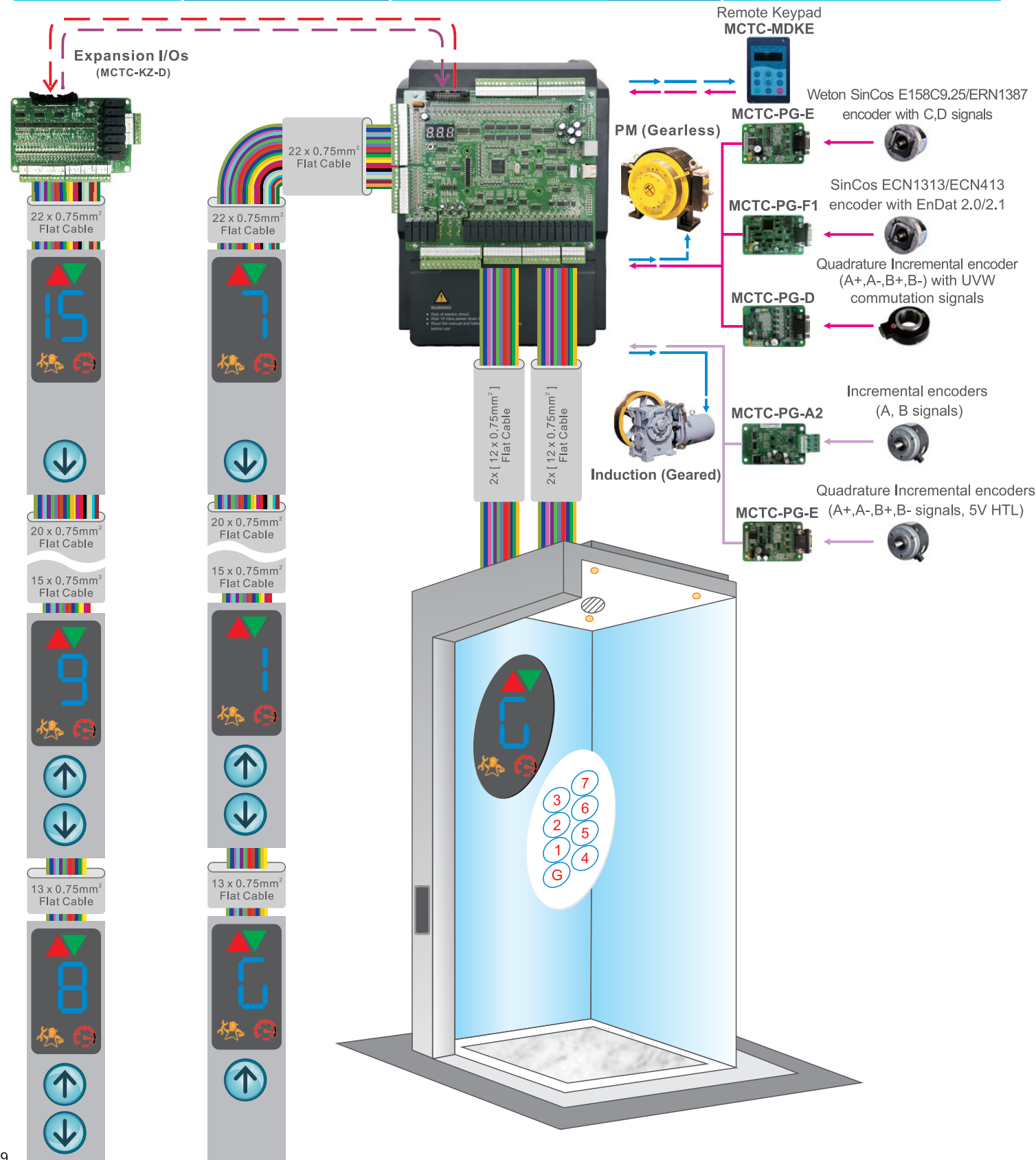
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NICE 1000+

Basic Connection Diagram

Standard 8-Floors Full Collective, Expansion 16-Floors Full Collective

LANDING OPERATION PANEL (LOP)		NICE 1000+	Motor Type	Hot Pluggable Keypad
Expansion	Standard	COP		Feedback Type



NICE 1000+

General Specifications

380 to 480Vac, -15% to 10% (323Vac to 528Vac)

Model Code	Frame Size	Input Current (A)	Output Current (A)	Typical Motor (kW)	Dimension (mm)			Dynamic Braking Unit	Dynamic Braking Resistor		
		3Ø	3Ø		Height (H)	Width (W)	Depth (D)		Min. Ω	Max. Ω	Recommended Power (W)
NICE-L-H/H1-4002-XX	C	6.5	5.1	2.2	347	223	143	In-Built	230	290	600
NICE-L-H/H1-4003-XX		10.5	9.0	3.7					135	170	1,100
NICE-L-H/H1-4005-XX		14.8	13.0	5.5					90	115	1,600
NICE-L-H/H1-4007-XX	D	20.5	18.0	7.5	347	223	174		65	85	2,500
NICE-L-H/H1-4011-XX		29.0	27.0	11.0					43	55	3,500
NICE-L-H/H1-4015-XX		36.0	33.0	15.0					35	43	4,500
NICE-L-H/H1-4018-XX	E	41.0	39.0	18.5	350	210	192		25	34	5,500
NICE-L-H/H1-4022-XX		49.5	48.0	22.0					22	24	6,500
NICE-L-H/H1-4030-XX	F	62.0	60.0	30.0	400	250	220		16	20	9,000
NICE-L-H/H1-4037-XX		77.0	75.0	37.0					13	16	11,000
NICE-L-H/H1-4045-XX	G	93.0	91.0	45.0	525	300	275	External	11	14	13,500

220Vac Single-Phase, Three-Phase Ratings (-15% to 20%:187Vac to 264Vac)

Model Code	Frame Size	Input Current (A)		Output Current (A)		Typical Motor (kW)		Dimension (mm)			Dynamic Braking Unit	Dynamic Braking Resistor					
		1Ø	3Ø	1Ø	3Ø			Height (H)	Width (W)	Depth (D)		Min. Ω		Max. Ω		Recommended Power (W)	
						1Ø	3Ø					1Ø	3Ø	1Ø	3Ø	1Ø	3Ø
NICE-L-H/H1-2002-XX	C	9.2	11.0	5.2	9.6	1.1	2.2	347	223	143	In-Built	125	65	145	72	300	600
NICE-L-H/H1-2003-XX		13.3	17.0	7.5	14.0	1.5	3.7					90	50	105	54	450	1,100
NICE-L-H/H1-2007-XX	D	17.9	20.5	10.3	18.0	2.2	4.0	347	223	174		63	35	72	40	600	1,200
NICE-L-H/H1-2011-XX		25.3	29.0	15.5	27.0	3.7	5.5					37	25	43	29	1,100	1,600
NICE-L-H/H1-2015-XX		31.3	36.0	19.0	33.0	4.0	7.5					35	22	40	26	1,200	2,500
NICE-L-H/H1-2018-XX	E	34.6	41.0	22.5	39.0	5.5	11.0	350	210	192		25	13	29	15	1,600	3,500
NICE-L-H/H1-2022-XX		42.6	49.0	27.7	48.0	11.0	15.0					16	13	18	13	3,500	4,500
NICE-L-H/H1-2030-XX	F	52.6	62.0	34.6	60.0	15.0	18.5	400	250	220		13	12	13	13	4,500	5,500

Dimensions








Frame Size	Reference (mm)					Weight (kg)
	A	B	W	H	D	
C	150	335	223	347	143	5.5
D					174	7
E	195	335	210	350	192	9.1
F	230	380	250	400	220	17
G	245	523	300	525	275	35







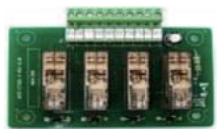

Name Designation Rules

NICE - L - X - XX XX - XX					
Series	Lift Solution	Drive Mode	Encoder Type:		
			E i. Weton SinCos EI58C9.25		
			ii. ERN1387 with C,D signals		
			iii. Quadrature incremental encoders (A+,A-,B+,B- signals, 5V HTL)		
			F1 i. ECN413 EnDat 2.0/2.1		
			ii. ECN1313 EnDat 2.0/2.1		
			A2 i. Incremental encoders single ended (A,B signals, 12V)		
			D i. Quadrature incremental encoders (A+,A-,B+,B-) with UVW communication signals		
Gearless/Geared (Synchronous/Asynchronous) H					
Gearless/Geared (Asynchronous) H1					
Power Rating: xx kW					
Voltage Rating: 20: 220Vac, 40: 380Vac					




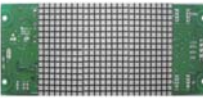

ACCESSORIES

A wide range of optional cards and accessories are available for users to integrate with existing elevator system andother vender supplier equipments.

Item	Model No	Description	Compatibility			
			NICE3000+	NICE1000+	NICE900	MD380L
	LED Remote Keypad Model No.: MCTC-MDKE	Hot pluggable, high-brightness 5-Digits LED display keypad, show parameters of running speed, bus voltage etc. Allows user for parameter set up & maintenance.	✓	✓		✓
	SinCos Encoder Card Model No: MCTC-PG-E	Hardware Configuration: 5Vdc Supply, female 15-way D-type connector Function Configuration: Wetcon SinCos EI58C9.25/ERN1387 encoder with C,D signals. Fitted to main control board. For Gearless PM Motor. Quadrature incremental encoders (A+, A-, B+, B- signals, 5VHTL). Fitted to main control board. For Geared motor.	✓	✓		
	SinCos Encoder Card Model No: MCTC-PG-F1	Hardware Configuration: 5Vdc Supply, female 15-way D-type connector Function Configuration: For SinCos ECN1313/ECN413 encoder with EnDat2.0/2.1 serial communications. Fitted to main control board. For Gearless PM Motor	✓	✓		
	Quadrature Encoder Card Model No: MCTC-PG-D	Hardware Configuration: 5Vdc Supply, female 15-way D-type connector Function Configuration: For quadrature incremental encoder (A+, A-, B+, B-) with UVW communication signals. Fitted to main control board. For Gearless PM Motor.	✓	✓		
	Asynchronous encoder card, Terminal block Model No: MCTC-PG-A2	Hardware Configuration: 12Vdc Supply, terminal block connector Function Configuration: For incremental encoder, single ended (A, B). Fitted to main control board. Fitted to main control board. For Geared motor.	✓	✓		
	External Braking Unit Model : No MDBU-35A/B/C/D, MDBU-70A/B/C/D, MDBU-200A/B/C/D/E	External braking unit for integrated controller rating above 30kW Input voltage: 220Vac, 380Vac, 440Vac, 460Vac, 690Vac (Remarks: In-built braking unit for integrated controller ≤ 30kW)	✓	✓		
	Group Control Board Model No: MCTC-GCB-A	Hardware Configuration: 1 group of RS232, 1 group of RS485, 4 groups of CAN communication port, operational panel circuit Function Configuration: Minimum wait time basis allocation mode, efficiency preference mode based on fuzzy logic control, password protection, group control home landing setting, peak service, energy-saving, re-enforce simplex-mode over group control, service floor and separate wait function. For 3-4 elevators coordination (for duplex-standard inbuilt for NICE 3000+)	✓			

Item	Model No	Description	Compatibility			
			NICE3000+	NICE1000+	NICE900	MD380L
	Car Top Board Model No: MCTC-CTB-A (Horizontal connector)	Hardware Configuration: 8 digital signal input terminals, 9 relay output terminals, 1 analogue voltage signal input terminal, 1 onboard RS485 and CAN communication port, 2 parallel interface expansion port Function Configuration: Through-Door open control, analogue torque compensation, over-load signal, full-load signal, bidirectional arrival chime signal, serialLink with car display board and command button	✓			
	Model No: MCTC-CTB-B (Vertical connector)		✓			
	Car Call Board Model No: MCTC-CCB-A	Hardware Configuration: 24 digital input terminals, 20 digital output terminals Function Configuration: 16 Floor buttons and 8 functional signals. e.g. : Door OPEN/CLOSE, door open delay, non-stop mode , attendant mode, reversing direction, independent mode, fireman mode, arrival gong signal output.	✓			
	Car Call Board Model No: MCTC-CCB-B	Hardware Configuration: 39 digital input terminals, 35 digital output terminals Function Configuration: 31 Floor buttons and 8 functional signals. e.g. : Door OPEN/CLOSE, door open delay, non-stop mode , attendant mode, reversing direction, independent mode, fireman mode, arrival gong signal output.	✓			
	Non-Display Floor Call Board Model No: MCTC-HCB-B	Hardware Configuration: No dot-matrix display, compatible with original HCB-F/H with 4 digital input/output Function Configuration: Travel UP & DOWN button indicator output, over-load indicator, double button control, hall call button input, fire emergency input, lock input, HPB serial change to parallel & 7-segment function	✓			
	Arrival voice synthesizer Model No: MCTC-CHM-B	Allows user to preset standard messages and announce to the passenger by a voice synthesizer	✓			
	Advanced Door Open Board Model No: MCTC-SCB-A	To facilitate for advanced door-open function. When the lift is running automatically and the speed is slower than 0.3 m/sec in the stopping cycle and the door-zone signal is valid, SCB-A shorts the door lock signal through the advanced door-open contactor, and pre-opens the door thereby enhancing the efficiency.	✓	✓		
		Software Characteristic: Access Rights Login, offers control over individual car, ability to view lift controller system version, travel counts, ability to upload and download parameters value of the lift controller and drive, real-time elevator current condition and information to expedite troubleshooting and reduce downtime	✓	✓		

ACCESSORIES

Item	Model No	Description	Compatibility			
			NICE3000+	NICE1000+	NICE900	MD380L
	Hall Call Board, Vertical Model No: MCTC-HCB-H (Red colour dot-matrix) MCTC-HCB-H1 (Blue colour dot-matrix) MCTC-HCB-H2 (Amber colour dot-matrix)	Hardware Configuration: 5x7 high contrast dot-matrix LED display, 1 over/full load illuminant block, 4 digital inputs/outputs Function Configuration: Travel UP & DOWN button indicator output, directional dot-matrix output, over-load indicator, double button control, hall call button input, fire emergency input, lock input	✓			
	Hall Call Board, Horizontal Model No.: MCTC-HCB-F (Red colour dot-matrix) MCTC-HCB-F1 (Blue colour dot-matrix) MCTC-HCB-F2 (Amber colour dot-matrix)		✓			
	Hall Call Board, Vertical Model No.: MCTC-HCB-XG-INT-VX (Amber colour dot-matrix)	Hardware Configuration: 16x16 high contrast dot-matrix LED display, double arrow indicator, 1 over/full load illuminant block, 4 digital inputs/outputs Function Configuration: Travel UP & DOWN button indicator output, directional dot-matrix output, over-load indicator, double button control, hall call button input, fire emergency input, lock input & hall lantern	✓			
	Hall Call Board, Horizontal Model No.: MCTC-HCB-XG-INT-HX (Amber colour dot-matrix)		✓			
	Ultra-Thin Floor Call Board (Red LED) Model No: MCTC-HCB-R2 (Red colour dot-matrix) MCTC-HCB-R2 (Amber colour dot-matrix)	Hardware Configuration: 5x7 high contrast dot-matrix LED display 4 digital inputs/outputs Function Configuration: Travel UP & DOWN button indicator output, directional dot-matrix output, over-load indicator, double button control, hall call button input, fire emergency input, lock input	✓			
	Full Dot Matrix Hall Call Board Model No: MCTC-HCB-G1 (Red colour dot-matrix) MCTC-HCB-G2 (Amber colour dot-matrix)	Hardware Configuration: 16x24 high contrast dot-matrix LED display 4 digital inputs/outputs Function Configuration: Travel UP & DOWN button indicator output, directional dot-matrix output, over-load indicator, double button control, hall call button input, fire emergency input, lock input	✓			
	Hall Call Board Model No.: MCTC-HCB-Y1 (Amber colour dot-matrix)	Hardware Configuration: Dual 5x7 high contrast dot-matrix LED display Function Configuration: For duplex elevator group control Travel UP & DOWN button indicator output, directional dot-matrix output, over-load indicator, double button control, hall call button input, fire emergency input, lock input	✓			
	MNK Display Board Model No: MCTC-HCB-D2	Hardware Configuration: 3.5" inch ultra-thin vertical dual colour LCD. Blue background with white letter Function Configuration: Travel UP & DOWN button indicator output, directional dot-matrix output, over-load indicator, double button control, hall call button input, fire emergency input, lock input	✓			

Item	Model No	Description	Compatibility			
			NICE3000+	NICE1000+	NICE900	MD380L
	Model No: MCTC-HCB-U1	Hardware configuration: 4.3" inch vertical dual colour LCD. Blue background with white letters. Appearance size: 144mm x 80mm x 16.9mm Display area: 92mm x 54mm	✓			
	Model No: MCTC-HCB-V1	Hardware configuration: 6.4" inch vertical dual colour LCD. Blue background with white letters. Appearance size: 185mm x 131mm x 18mm Display area: 139mm x 99mm	✓			
	Model No: MCTC-HCB-T1	Hardware configuration: 4.3" inch TFT LCD Display, Resolution: 480 x 272 pixels Function configuration: Vertical display, content NOT editable with TPPS-MNK software	✓			
	Model No: MCTC-HCB-T2	Hardware configuration: 7" inch TFT LCD Display, Resolution: 1024 x 768 pixels Function configuration: Vertical/horizontal display, each with two different type styles, adjustable display content with TPPS-MNK software	✓			
	Model No: MCTC-HCB-T3	Hardware configuration: 9.7" inch TFT LCD Display, Resolution: 1024 x 768 pixels Function configuration: Vertical/horizontal display, each with two different type styles, adjustable display content with TPPS-MNK software	✓			
	Weton SinCos Encoder Model No.: EI58C9.25-2048	Mechanical Specifications: Rotating speed ≤ 2,000 rpm, starting torque 1x10 ⁻² N.m Axial load 10N, Radial load 10N Electrical Specification: Supply Voltage : 5Vdc (±5%) No load current : ≤ 100mA Frequency response : ≤ 50kHz Resolution : 2,048PPR	✓	✓		
	Weton Rotary Incremental Encoder Model No.: EI100H30-1024-BR30Y1	Mechanical Specifications: Hole Diameter : 30~45 mm, Shaft Loading : up to 10N axial and 10N radial, Starting torque at (25°C) : 5x10 ⁻³ Nm Maximum RPM : 5,000 Moment of inertia : 980m/s ² Electrical Specifications: Voltage Output : 10~30V Open Collector, 10~30V,15V Push-Pull Current Requirements : ≤ 200 mA, Frequency Response : ≤ 200kHz, Resolution : 100~2500 PPR Environmental Specifications: Operating temperature : -20 to +100°C Storage temperature : -20 to +100°C	✓	✓		
	Weton U-Type Photoelectric Switch Model No.: E3S-GS3B4 (PNP Output) E3S-GS3E4 (NPN Output)	Electrical Specification : Supply Voltage : 12~24Vdc, Current consumption ≤ 40mA Output Type : PNP Open collector output type NPN Voltage output type Environmental Specifications : Operating temperature : 0 to +80°C Storage temperature : -20 to +80°C	✓	✓		