MABARA

Direct Landing
Manual Book



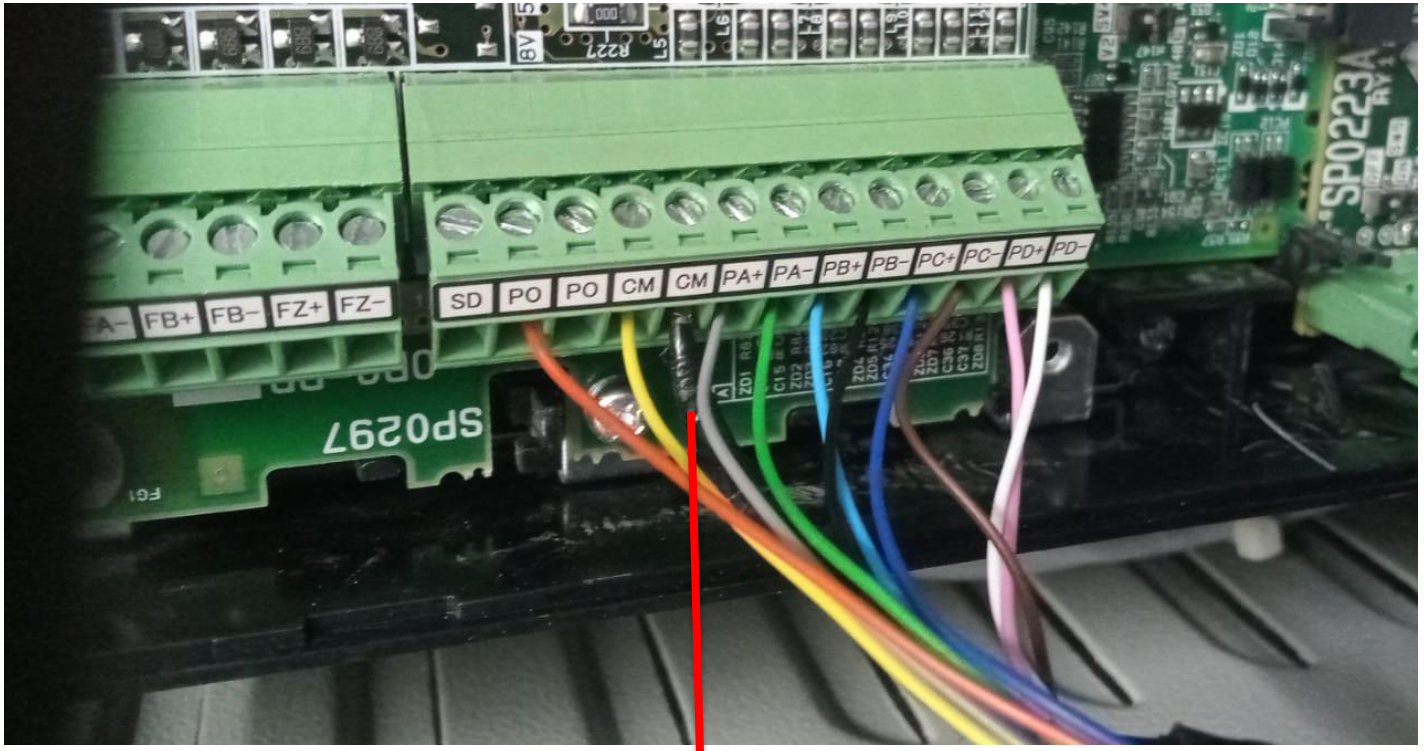
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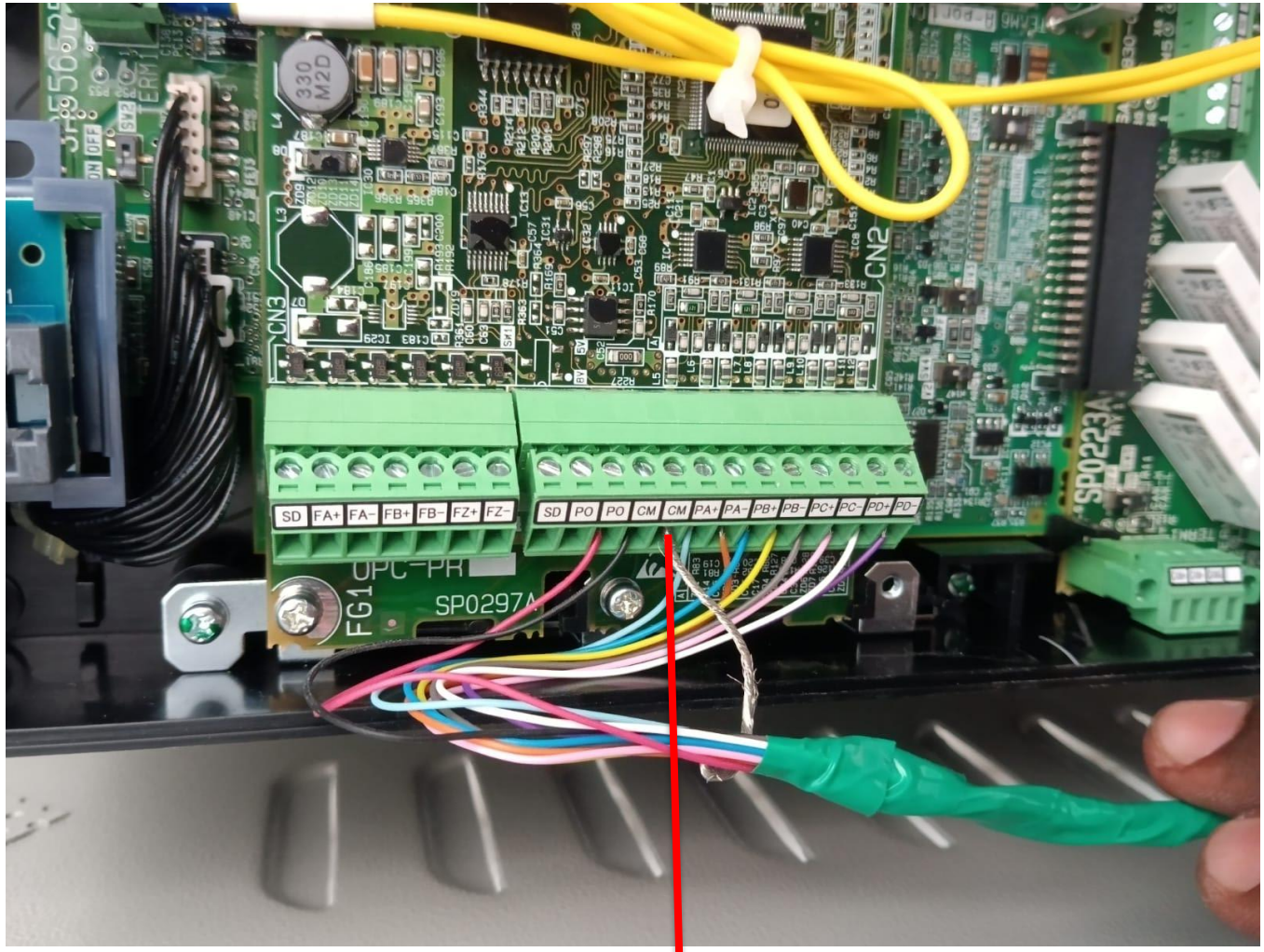
Fuji Drive Version - 1506, 1507

Date :20-04-2024

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CM -- The encoder shield wire must be fixed in the CM Terminal only.

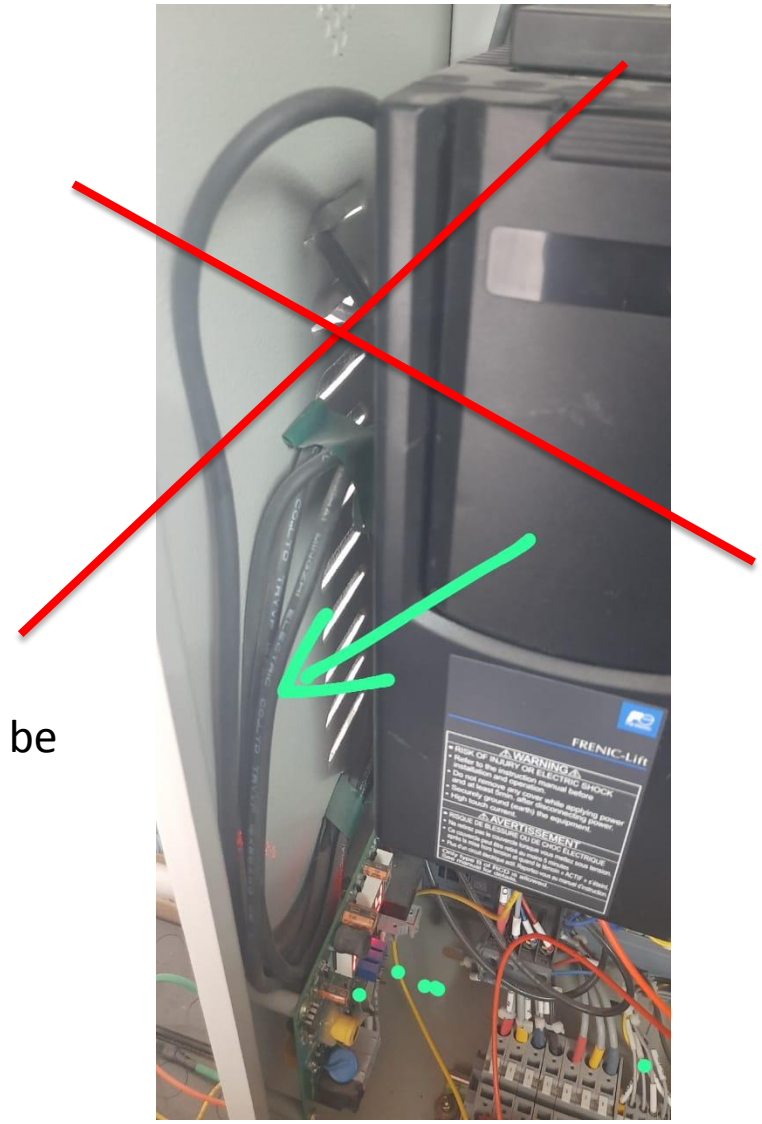


CM -- The encoder shield wire must be fixed in the CM Terminal only.





The encoder shield must be attached to the encoder's groove.



The encoder cable should not be coiled (ROLLED).

BHARAT BIJLEE MOTOR - ENCODER CONNECTING DETAILS (ERN 1387)

ENCODER SIDE CONNECTION / SIGNALS	BBL ENCODER CABLE COLOR CODE	Fuji Pin / DRIVE SIDE TERMINAL CONNECTION
+5V	BLUE	PO
D+	Violet	PD+
B+	White	PB+
R+ /Z+	Brown	—
0V	Grey	CM
A+	Light Blue	PA+
C+	Red	PC+
C-	Green	PC-
A-	Orange	PA-
R-/Z-	Pink	—
B-	Yellow	PB-
D-	Black	PD-

SICOR India

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SICOR Motor Encoder Cable Connection details (ERN 1387)		
ENCODER SIDE CONNECTION/ SIGNAL	**ENCODER CABLE COLOR CODE**	**Fuji Pin / DRIVE SIDE TERMINAL CONNECTION**
B-	Brown	PB-
null	null	null
R+ or Z+	Orange	null
R- or Z-	Light Blue	null
A+	Yellow	PA+
A-	Violet	PA-
0 Volt (Com)	White	CM
B+	Green	PB+
5 Volt (VCC)	Blue	PO
C+	Red	PD-
C-	Black	PD+
D+	Pink	PC+
D-	Grey	PC-
null	null	null
null	null	null

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TECTRONICS MOTOR Encoder Connection (ERN 1387)

ENCODER SIDE CONNECTION	ENCODER CABLE COLOR CODE	Fuji Pin / DRIVE SIDE TERMINAL CONNECTION
1A/ 11	WHITE	PC-
1B/9	RED	PO (5V)
2A/6	BLACK	PA-
2B/12	BLUE	PD+
3B/8	GREY	PB+
~~R-/ 4~~	PURPLE	null
~~R+ /3~~	ORANGE	null
5A/1	GREEN	PB-
5B/7	YELLOW	CM (OV)
6A/13	BROWN	PD-
6B/5	LT -BU (Light Blue)	PA+
7B/10	PINK	PC+

MONO DRIVE / Normal Motor - Encoder Connection (ERN 1387) IASTAR Details		
ENCODER SIDE CONNECTION/ SIGNAL	**ENCODER CABLE COLOR CODE**	**Fuji Pin / DRIVE SIDE TERMINAL CONNECTION**
1a/10	PINK	PC-
6a/13	PURPLE	PD-
2a/6	ORANGE	PA-
5a/1	YELLOW	PB-
4b	BROWN	null
7b/11	DARK GRAY	PC+
2b/12	WHITE	PD+
6b/5	LIGHT BLUE	PA+
3b/8	BLUE	PB+
-	SHELL	CM (SHIELD)
1b/9	RED	PO (5V)
5b/7	BLACK	CM (0V)
4a/4	GREEN	null

KDS Machines Encoder connection Model 660 (ERN 1387)

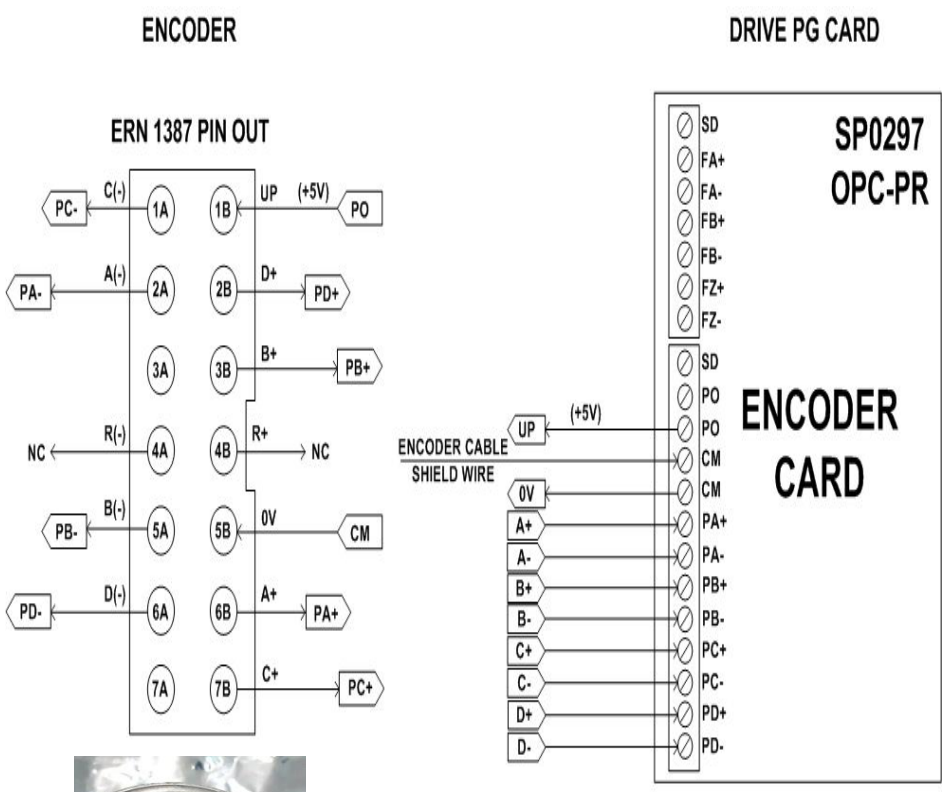
ENCODER SIDE CONNECTION / SIGNAL PCB 14 PINCONNECTOR	**ENCODER CABLE COLOR CODE**	**Fuji Pin / DRIVE SIDE TERMINAL CONNECTION**
6b A	Orange	PA +
2a A-	Yellow	PA -
3b B	Green	PB+
5a B	Blue	PB-
4b R+	Pink	null
4a R-	Light Blue	null
7b C+	Purple	PC+
1a C-	Grey	PC-
2b D+	White	PD+
6a D-	Brown	PD-
5b 0V	Black	CM
1b 5V	Red	PO

NBSL MOTOR Encoder Connection (ERN 1387)

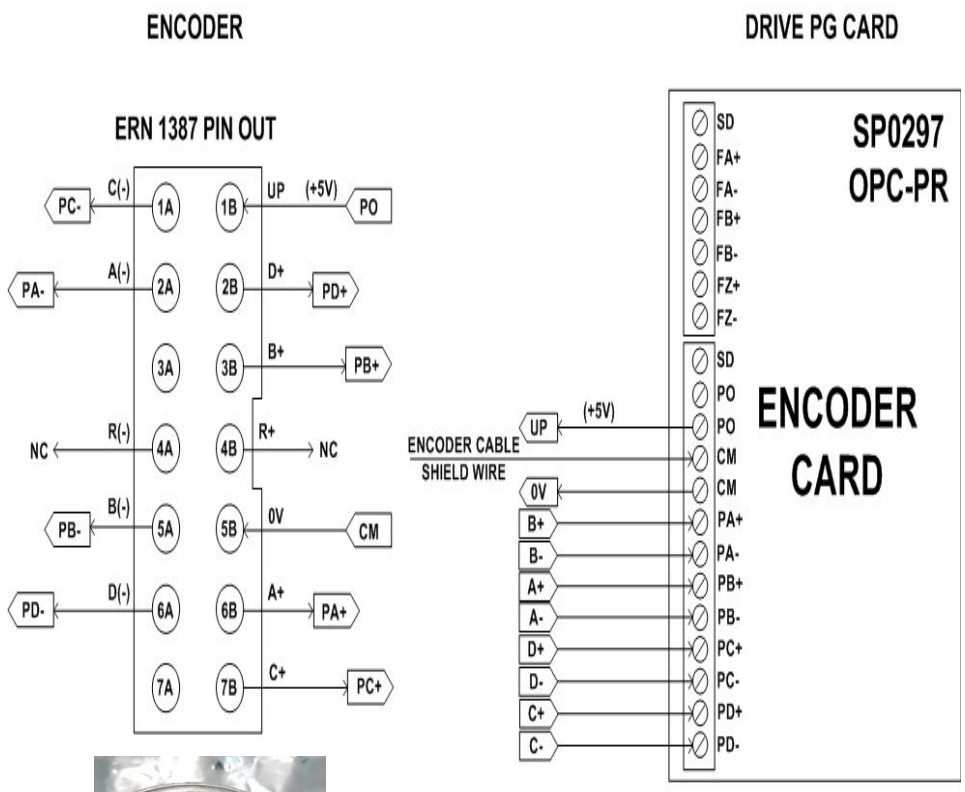
ENCODER SIDE CONNECTION 'D'' Connect / Pin number	ENCODER CABLE COLOR CODE	Fuji Pin / DRIVE SIDE TERMINAL CONNECTION
1	BROWN	PB-
2	-NIL-	-NIL-
3	ORANGE	null
4	SKYBLUE	null
5	YELLOW	PA+
6	VOILET	PA-
7	WHITE	CM (0V)
8	GREEN	PB+
9	BLUE	PO (5V)
10	BLACK	PC-
11	RED	PC+
12	PINK	PD+
13	GRAY	PD-

ENCODER TO DRIVE PG CARD WIRING DETAILS

FORWARD DIRECTION



REVERSE DIRECTION

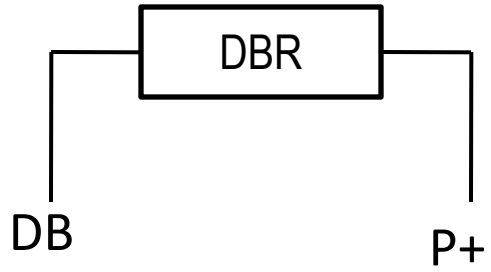


DBR WIRING DETAILS

DB, P+ (DBR CONNECTION)
P2 & P3 JUST LOOP ONLY

DBR Connection Diagram

NOTE (FOR DIRECT LANDING)
NETURAL WIRE HAS TO CONNECT IN DBR



Refer the below Table for DBR rating

Frenic-Lift (LM2C)		
Inverter Type No	DBR specifications	
	Allowable Minimum DBR Ohmic value (Ohms)	DBR power rating (KW)
FRN0010LM2C-4A	96	1
FRN0015LM2C-4A	47	1.5
FRN0019LM2C-4A	47	2
FRN0025LM2C-4A	24	3
FRN0032LM2C-4A	24	4
FRN0039LM2C-4A	16	5
FRN0045LM2C-4A	16	6

KEYPAD
MODEL / TYPE
TP –E1U





These keypad Models / Types
TP – E1U & TP-A1-LM2
Can use for LM2C – Black Drive.



KEYPAD
MODEL / TYPE
TP –A1-LM2





FUJI PORATBLE DIRECT LANDING ARD SW FRENIC – LIFT LM2C IO BASED DBC PARAMATERS (VERSION – 1506,1507)

DRIVE FACTORY RESET PROGRAM | HO3 | 1 | 1506 VERSION—--////—--DRIVE FACTORY RESET PROGRAM| HO3 | 2 | 1507 VERSION (To Load Default Value - By Pressing STOP & UP Keys together)		
PARAMETERS SETTING – By Following the Below		
FUNCTION CODE	**DESCRIPTION**	**SETTINGS**
P01	MOTOR POLE	AS PER MOTOR PLATE
P02	MOTOR POWER	AS PER MOTOR PLATE
P03	MOTOR CURRENT	AS PER MOTOR PLATE
F03	MOTOR RPM	AS PER MOTOR PLATE
F04	MOTOR RPM	AS PER MOTOR PLATE
F05	MOTOR VOLTAGE	AS PER MOTOR PLATE
F23	STARTING SPEED	1.50
F24	STARTING SPEED HOLDING TIME	0.00 Sec
F26	CARRIER FREQUENCY	8
F42	CONTROL MODE	1
E04	ARD INPUT	63
E12	DBC MODE ACCELERATION	4.00 Sec
E20	UVW CONTACTOR OUTPUT	55
E21	BREAK CONTACTOR OUTPUT	57
E22	APPROACHING NEXT FLOOR OUTPUT	130
E23	TEACHING MODE COMPLETION OUTPUT	137
E24	SHORT CIRCUIT OUTPUT	123

IMPORTANT PAGE

PARAMETERS SETTING – By Following the Below

C03	ARD SPEED	5.00 Rpm
C06	MTN SPEED	15.00 Rpm
C07	HOMING MODE SLOW SPEED	7.00 Rpm
C09	TEACHING MODE SLOW SPEED	10.00 Rpm
C10	TEACHING MODE HIGH SPEED	40.00 Rpm
C11	HIGH SPEED	AS PER CUSTOMER REQUIRE / NEED
C13	HOMING SPEED	30.00 Rpm
H64	ZERO SPEED HOLDING TIME	0.80 Sec
H65	STARTING SPEED (SOFT START TIME)	1.0 Sec
L01	ENCODER TYPE	5
L02	ENCODER PULSE	2048
L36	ASR P CONSTANT AT HIGH SPEED	2.00
L38	ASR P CONSTANT AT LOW SPEED	2.00
L56	REFERENCE TORQUE END TIME	0.50 Sec
L66	UN-BALANCED LOAD COMPENSATION ACTIVATION TIME	1.50 Sec
L68	UN-BALANCED LOAD COMPENSATION (ASR P CONSTANT)	2.50
L69	UN-BALANCED LOAD COMPENSATION (ASR I CONSTANT)	0.003
L82	BREAK CONTROL (ON DELAY TIME)	0.20 Sec
L83	BREAK CONTROL (OFF DELALY TIME)	0.10 Sec
L85	MC CONTROL (STARTUP DELAY TIME)	0.10 Sec
L86	MC CONTROL (MC OFF DELAY TIME)	0.20 Sec

PARAMETERS SETTING – By Following the Below

L1_L122	DELIVERANCE OPERATION INPUT POWER DETECTION	20%
L1_L123	DELIVERANCE OPERATION DIRECTION CALCULATION SETUP	0003 (00000011 : 3)
L4_L470	ER6 ERROR DETECTION TIME	5 Sec
L4_L480	NUMBER OF FLOORS (For Example : G+4 as to SET = 5)	AS PER APPLICATION
L4_L484	NEXT FLOOR APPROACH SIGNAL TIME	500
L199 bit-2	ERE PG WIRE BREAK ALARM	0004 (00000100 : 4)
PARAMETERS SETTING --SCC FUNCTION		
U00	SCC Function Customizable logic	1
U01	SCC Function Customizable logic	2071
U02	SCC Function Customizable logic	9001
U04	SCC Function Customizable logic	60.0
U05	SCC Function Customizable logic	40.0
U06	SCC Function Customizable logic	20.0
U07	SCC Function Customizable logic	2001
U08	SCC Function Customizable logic	123
U71	SCC Function Customizable logic	2
U81	SCC Function Customizable logic	115

SCC FUNCTION WIRING U V W RLY BOARD	
U0	RED
V0	YELLOW
W0	BLUE

PORTABLE DIRECT LANDING ARD SW CONTROLLER
NEED (12 VOLTE) BATTERY - 6 NOS

FERRUELS DETAILS FOR LM2C BLACK FUJI DRIVE WIRING

MABARA WIRING FERRUELS NAMING – IN CONTROLLER	TERMINAL NAMING IN DRIVE
30A (RED)	30A
30C (RED)	30C
Y5A (BLUE)	Y5A
Y5C (BLUE)	Y5C
Y4A (RED)	Y4A
Y4C (RED)	Y4C
Y3A (RED)	Y3A
Y3C (RED)	Y3C
CMY (-) (BLUE)	CMY
Y1 (BLUE)	Y1
Y2 (BLUE)	Y2
11 (BLUE)	11
12 (YELLOW)	12
UP (YELLOW)	FWD
DN (YELLOW)	REV
VCOM (YELLOW)	CM
X1 (YELLOW)	X1
X2 (YELLOW)	X2
X3 (YELLOW)	X3
X4 (YELLOW)	X4
X5 (YELLOW)	X5
X6 (YELLOW)	X6
X7 (YELLOW)	X7
X8 (YELLOW)	X8
EN1, EN2- LOOP (YELLOW)	EN1
	EN2
PLC (YELLOW)	PLC
NOTES - CHANGE DIP SWITCH (SW 1) , SOURCE SIDE TO SINK SIDE - IN DRIVE	
NOTES: Thermistor switch wiring motor terminal to drive.	
NTC	
11	

MOTOR TUNING PROCEDURE PARAMETER:-

1. (i) Put on controller INSPECTION mode. (ii). After then set the drive-L03 - (4) for stationary Auto tuning.

2. Then after press few minutes "INSPECTION" --- (up or down)

3. After tuning is completed, drive Display shows --L04

4. Motor Tuning procedure will be followed for two times , then the L04 will show the same value.

5. Then the lift will be ready for inspection mode.

6. Check Inspection UP or Down.

7. If VFD trip with OC1, OC2, OC3, ERE ERROR, change the

H190 = 0 (For setting 0 press stop and Down button)

8. Again tune the Motor and check the Inspection UP / DOWN.

L1 / R	R Phase	3 Phase INPUT Line
L2 / S	Y Phase	3 Phase INPUT Line
L3 / T	B Phase	3 Phase INPUT Line
U	Motor Power	Output Line
V	Motor Power	Output Line
W	Motor Power	Output Line

DRIVE ENCODER CARD FORWARD , REVERSE WIRING DETAILS

OPC-PR TERM 1	ENCODER SIGNAL FWD DIRECTION	OPC-PR TERM 1	ENCODER SIGNAL REV DIRTECTION
SD		SD	
PO		PO	
PO	5V	PO	5V
CM	0V	CM	0V
CM	SHIELD	CM	SHIELD
PA+	A+	PA+	B+
PA-	A-	PA-	B-
PB+	B+	PB+	A+
PB-	B-	PB-	A-
PC+	C+	PC+	C-
PC-	C-	PC-	C+
PD+	D+	PD+	D+
PD-	D-	PD-	D-

ERN 1387 ENCODER PCB TERMINAL		
b	a	PIN
7b/C+	7a/UP	7
6b/A+	6a/D-	6
5b/0V	5a/B-	5
4b/R+	4a/R-	4
3b/B+	3a/0V	3
2b/D+	2a/A-	2
1b/UP	1a/C-	1

SHAFT LEARNING

· Program settings P00 SET NO. OF FLOORS (**Only for MABARA Mother Board**), Ex:G+3 as per application your site.

· Put the Inspection mode ON.
· Then the lift will stand above the ESR.
· After then the LEARNING mode will be turned ON.
· Lift will learn all the floors by going down to up.
· After the learning is successful, the learning mode will be turned OFF.
· Wait for few minutes and turn OFF the Inspection mode.
· Then the lift will automatically go to the correction mode and it will go to the ground floor.

DIRECT LANDING (LM2C) DRIVE LEVELLING PARAMETER

1. L480 No. of Floor setting Parameter

2. Upward Levelling
   - L601 = 1st floor Upward Levelling
   - L602 = 2nd Floor upward levelling
   - L603 = 3rd Floor Upward Levelling

 According to the No. of Floor, change the Parameter

3. Downward Levelling
   - L500 = Ground floor Downward levelling
   - L501 = 1st Floor downward levelling
   - L502 = 2nd Floor Downward levelling

 According to the No. of Floor, Change the Parameter

Fuji Electric
Innovating Energy Technology

Frenic lift LM2C - Portable Direct Landing TROUBLE SHOOTING - Quick List of Alarm Codes

Error Code	Name	ERROR Description	Condition	What to Check and Suggested Measures. (By Fuji Vijin)	Solution finding Hints for issues
	INSTANTANEOUS OVER CURRENT	The inverter momentary output current exceeded the over current level.	OC1, OC2, OC3 at During the Slow speed operation Commissioning	1. Check UVW wiring connection from Motor and control panel and UVW contactors. 2. Check the brake wiring and confirm the brake voltage. 3. Check the encoder wiring and if its encoder fixing is ok or not . 4. Remove the wires connected to the inverter output terminals (U, V, and W) and measure the inter-phase resistance of the wires. Check if the resistance is Balanced or Not.	Check UVW lose connection if any / encoder cable / break voltage
OC1		OC1 : Over current during Acceleration			
OC2		OC2: Over current during Deceleration	OC1, OC2, OC3 at During the stopping		
OC3		OC3: Over current during running at a constant speed	OC1, OC2, OC3 at High-speed operation		
EF	Ground Fault	Zero -Phase current caused by ground fault in the output circuit has exceeded the allowable limit. (30kW or above)			Earth (Check neutral to earth voltage)

Frenic lift LM2C - Portable Direct Landing TROUBLE SHOOTING - Quick List of Alarm Codes

Error Code	Name	ERROR Description	Condition	What to Check and Suggested Measures. (By Fuji Vijin)	Solution finding Hints for issues
	Over Voltage	The DC Link bus voltage exceeded the overvoltage defection Level.	OV1, OV2, OV3 At High-speed operation	1. Check the DBR loose connection. 2. Check the DBR ohmic and Power value as per the Fuji electric selection chart,	Check DBR Value / DBR wiring or connection / Drive setting
OV1		OV1 : Overvoltage during Acceleration.			
OV2		OV2 : Overvoltage during Deceleration	OV1, OV2, OV3 On power ON the VFD	1. Check the DBR connection, 2. DC sensing failure Contact Fuji team,	
OV3		OV3: Overvoltage during running at a constant speed			
LV	Under Voltage	The DC Link bus voltage dropped below the Under voltage defection Level.	LU error on During the running	1. Check the input 3 phase power supply, 2. Check the voltage in between the three phases, 3. Check the connection in between the P1 And P+, Tight or Loose	Check Input voltage
LIN*	Input Phase loss	An input phase loss occurred or the Interphase voltage unbalance rate was large	LU error during the ARD Operation	1. Check the ARD parameters. 2. Check the ARD power supply voltage ,	Power fluctuation / Input wire size / loose connection
OPL*	Output Phase loss	An Output phase loss occurred.			Output supply wire loose connection / motor connection UVM wire

Error Code	Name	ERROR Description	Condition	What to Check and Suggested Measures. (By Fuji Vijin)	Solution finding Hints for issues
OH1	Heat Sink Overheat	The temperature around the heat sink has risen abnormally.	OH1 Error on Power ON	1. Temperature around the inverter exceeded that of inverter specifications 2. Air vent is blocked.	Drive fan working condition has to check, motor thermistor wiring should check
OH2	External alarm	The external alarm **THR** was entered. (When the **THR** '' Enable external alarm trip '' has been assigned to any digital input terminal)	OH2 error on Running operation	1. Check the parameters of E01 to E08 ,Don't assign 9 ,	
OH4	Motor protection (PTC / NTC thermistor)	The temperature of the motor has risen abnormally.		1. Check the H26 parameter and thermistor wiring 2. Check the H27 parameters as per the motor manufacturers data sheet 3. Cooling system for the motor malfunctioned.	
OH6	Charging resistor overheat	The temperature of the charging resistor inside the inverter has exceeded the allowable limit.			Check Drive fan , Drive hear temperature , Ventilation, keep the control panel and Drive shutdown for few minutes
DBH	Braking register Overheat	The temperature of the Braking resistor has exceeded the allowable limit.			Check DBR value / ohms , DBR rating connection

Frenic lift LM2C - Portable Direct Landing TROUBLE SHOOTING - Quick List of Alarm Codes

Error Code	Name	ERROR Description	Condition	What to Check and Suggested Measures. (By Fuji Vijin)	Solution finding Hints for issues
OL1	Overload of motor 1	The electronic thermal protection for motor overload defection of activated. The internal electronic motor overload protection does not have thermal memory retention.		1. Check the parameter of F11 & F12 (F11= Motor rated current) 2. Check the UVW connections from controller to Motor. 3. Check motor resistance, if its balanced or not. 4. Check motor brake.	Overload / check Break encoder / motor
OLU	Inverter Overload	The temperature inside the IGBT has risen abnormally.		1. Over temperature in IGBT. 2. Failure in the cooling system. 3. Switching frequency (function F26) too high 4. Carload too high. 5. Check Motor tuning data. 6. Check Motor brake.	
DBA*	Braking transistor broken	Detection of an abnormally in the brake transistor			
Er1	Memory error	An error has occurred when writing data to the inverter memory.		1. An error has occurred when writing data to the inverter memory. 2. Check Control PCB	Check parameters once than Reset and install parameters again
Er2	Keypad communications error	A communications error has occurred between the keypad and the inverter.		A communication error has occurred between the keypad and the inverter.	Check keypad - fixed properly

Frenic lift LM2C - Portable Direct Landing TROUBLE SHOOTING - Quick List of Alarm Codes

Error Code	Name	ERROR Description	Condition	What to Check and Suggested Measures.	Solution finding Hints for issues
Er3	CPU error	A CPU error or LSI error has occurred.		1. Failure in the inverter CPU. 2. Shorting in between the terminal of CM & PLC	Check whether Failure in Inverter CPU (main Drive card)
Er4	Option communications error	A communications error has Occurred between the connected option card and the inverter.		1. A communication error occurred between the option card and the inverter. 2. Check option card installation. 3. Check cables and shield connection.	Check shield connection, Cable connection, Boards
Er5	Option error	An error was detected by the connected option card (not by the inverter).		1. A communication error occurred between the option board and the encoder. 2. Check L01 parameter. 3. Check encoder cable. 4. Check encoder. 5. Check shield connection.	Encoder cable , encoder shield wire, option Card

Error Code	Name	ERROR Description	Condition	What to Check and Suggested Measures.	Solution finding Hints for issues
Er6	Operation protection	An incorrect operation was attempted.	Er6 error on Mulstistep mode	1. Check function L11-L18. Repeated value. 2. Check brake signal status (BRKE). 3. Check MC signal status (CS-MC). 4. Check function L84. 5. Check function L80, L82, L83. 6. Pole tuning not done (L04=0.00). 7. Error on brake monitoring (EN81-1+A3).	Check parameters , Drive wiring connection. Check UVW loose connection Check Motor Pole setting. Check Break function
			Er6 error on Teaching mode mode	1. Check lift direction, In DBC mode operation Frw=UP, Rev=Down 2. Check C09,C10,C07 parameters.	
			Er6 error on Homing mode	1. Check X3 command input, 2. Check C13,C07 parameters.	
			Er6 error on DBC mode	1. Check X1 command input and Frw/Rev command, 2. Check C11 parameter. 3. Check Door zone input command (X6). 4. Check Input command chattering .	

Error Code	Name	ERROR Description	Condition	What to Check and Suggested Measures.	Solution finding Hints for issues
Er7	Tuning error	Auto - tuning or Magnetic Pole Position offset tuning has failed, resulting in abnormal tuning results.	Er-7 error on Motor Tunning Er-7 error on Run command activated	1. Check EN1 & EN2 Terminal connection. 2. Check UVW connection from Controller to Motor . 3. Check output contactor ON/OFF. 4. Check BX command program. 1. Check EN1 & EN2 Terminal connection. 2. Check UVW connection from Controller to Motor . 3. Check UVW contactor sequence program. 4. Check F42 parameter .	Check Tuning setting , Motor Poles settings
Er8	RS -485 communications error (Er8: RS -485 port 1, ErP: port 2)	A communications error has occurred during RS -485 communication.		1. Cable is interrupted. 2. High noise level.	Check Earth to neutral voltage, Encoder shield wire connection
ErP					
ErF	Data saving error during under voltage	When the under voltage protection was activated , the inverter failed to save data, showing this error.		under voltage is detected (LV) while inverter was saving data.	Check Power supply , Drive Input Voltage

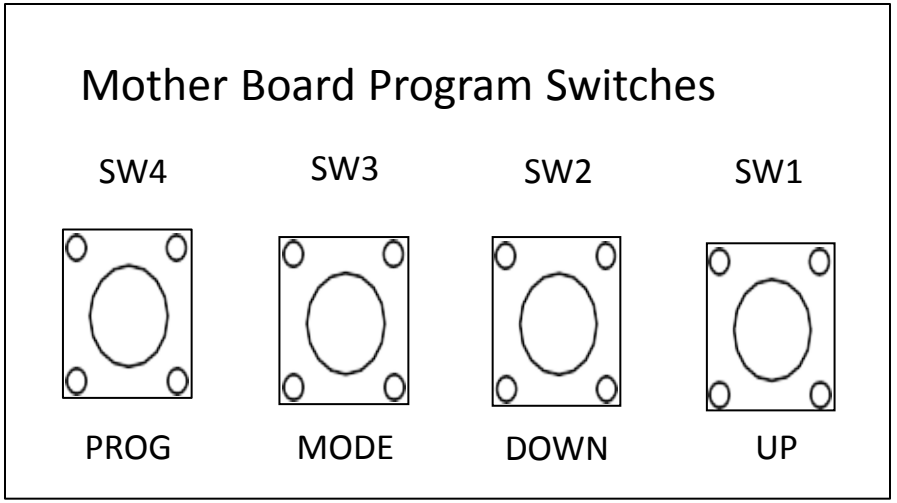
Error Code	Name	ERROR Description	Condition	What to Check and Suggested Measures (By Fuji Vijin)	Solution finding Hints for issues
ErH	Hardware error	The LSI on the power printed circuit board has malfunctioned due to noise, etc.		1. Option card not correctly installed. 2. Inverter software version not compatible with option card	Check Whether option card has to fixed properly / Option Card failure
PG	Broken wiring in the PG	The inverter defects a broken wiring connection in the pulse encoder.		1.Inverter detects a problem on the wiring connection of the encoder	Check Encoder cable connection, parameters, if encoder cable connection wiring wrong.
Ert	CAN open communication error	A communications error has occurred during CAN open communication.		1. CAN bus disconnected from the inverter. 2. Electrical noise, connect cable shield. 3. Terminating resistor not connected	Under Voltage and check Drive parameters
OS	Over speed prevention	The motor speed is higher than maximum speed * L32.		1. Check Earthing in between the terminal of Neutral to Earth. 2. Check L65 parameter. 3. Check shielded cable of encoder connected to Cm terminal of the option card.	Encoder , Encoder Cable, Speed Parameters

Error Code	Name	ERROR Description	Condition	What to Check and Suggested Measures (By Fuji Vijin).	Solution finding Hints for issues
ErE	Speed mismatching	The reference speed and the detection speed are different.	ERE error During the Slow speed commissioning	1. Check encoder wiring . 2. Check UVW connection . 3. Check Motor Brake . 4. Check L36 & L38 parameters. 5. Interchange H190 parameter.	Check Encoder wiring, option card, Break parameters E21 (Y2 wiring / Break Relay / Boards / Tuning
			ERE error at Stopping	1. Check encoder shielded cable connection. 2. Check L83, L86 parameters,	
			ERE error at high speed operation	1. Check encoder shielded cable connection. 2. Check L36 and L38 parameters. 3. Check VFD Output current. 4. Check motor brake	
Ot	Over torque current	Reference torque became excessive.		1. Check motor output current 2. Check motor brake, 3. Check E43 ,E35 parameters.	Motor Amps (Motor capacity & Drive capacity
bbE	Brake Confirmation (Brake monitoring function error)	The inverter defects mismatch between the brake control signal and brake detection (feedback) signal.		Brake state differs from expected. For additional information, please contact Fuji Electric.	Check Break Voltage

Error Code	Name	ERROR Description	Condition	What to Check and Suggested Measures (By Fuji Vijin).	Solution finding Hints for issues
tCA	Reaching maximum numbers of trip counter	The number of trip direction changes has reached the preset level.		The number of trip direction changes has reached the pre-set level. Remove lift ropes/belt and install new ones.	More than 3 Error
SCA	Short - circuit control error	The inverter defects mismatch between the short - circuit control signal and short - circuit detection (feedback) signal.		1. The inverter detects a mismatch between the short-circuit control signal and short-circuit detection (feedback) signal. 2. Check U Function parameters. 3. Check SCA relay and its wirin	Check Neutral to Earth Voltage / Customizable logic
LCO	Load - cell Overload	Load -cell function has detected overload situation by means of preset level.		Load-cell function has detected overload situation by means of pre-set value.	Over loading defected, check Motor Amps, Break Voltage
rbA	Rescue by brake alarm	No movement detected during rescue operation by brake control.		No movement detected during rescue operation by brake control.	Rescue Break alarm

Error Code	Name	ERROR Description	Condition	What to Check and Suggested Measures (By Fuji Vijin).	Solution finding Hints for issues
nrb	NTC wire break error	Detected a wire break in the NTC thermistor detection circuit.		Detected a wire break in the NTC thermistor detection circuit.	Check thermistor detection circuit
ECL	Customizable logic error	A customizable logic configuration error has caused an alarm.		A customizable logic configuration error has caused an alarm.	Check customizable logic paramaters
Eo	**EN1, EN2** terminals chattering	Detected collision between **ENOFF** output and **EN1/EN2** input terminals.		Detected collision between ENOFF output and EN1/EN2 input terminals.	EN1 , EN2 Wiring has to check
ECF	**EN1, EN2** terminals circuit error	An abnormality was diagnosed in EN1 , EN2 terminals circuit.		The inverter detects an error on the enable terminals circuit, and stops itself. Check if the error can be reset by switching OFF and ON. If yes, make sure EN1 and EN2 signals come at same time.	EN1 , EN2 Wiring has to check

PORTABLE DIRECT LANDING MOTHER BOARD OPERATING DETAILS



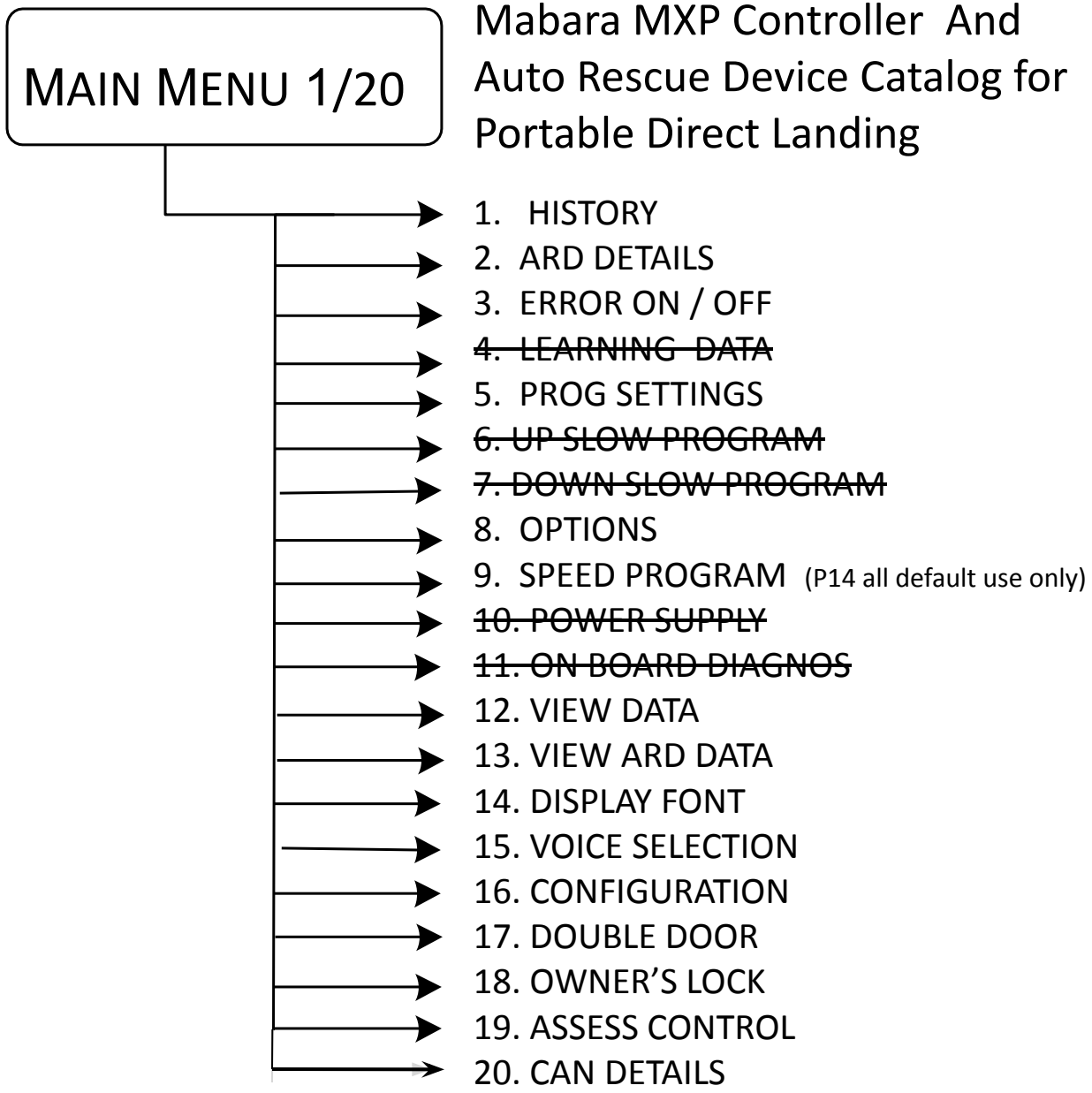
How to use the switches:-

Press “MENU” (SW4) switch to select the Menus.

Press “MODE” (SW3) switch to go inside each Menu.

Use “UP “(SW1) and “DOWN” (SW2) switch to change the display data and values (if applicable).

To come back to menu, press again to “MENU” switch for 2 seconds will come out of Menu.



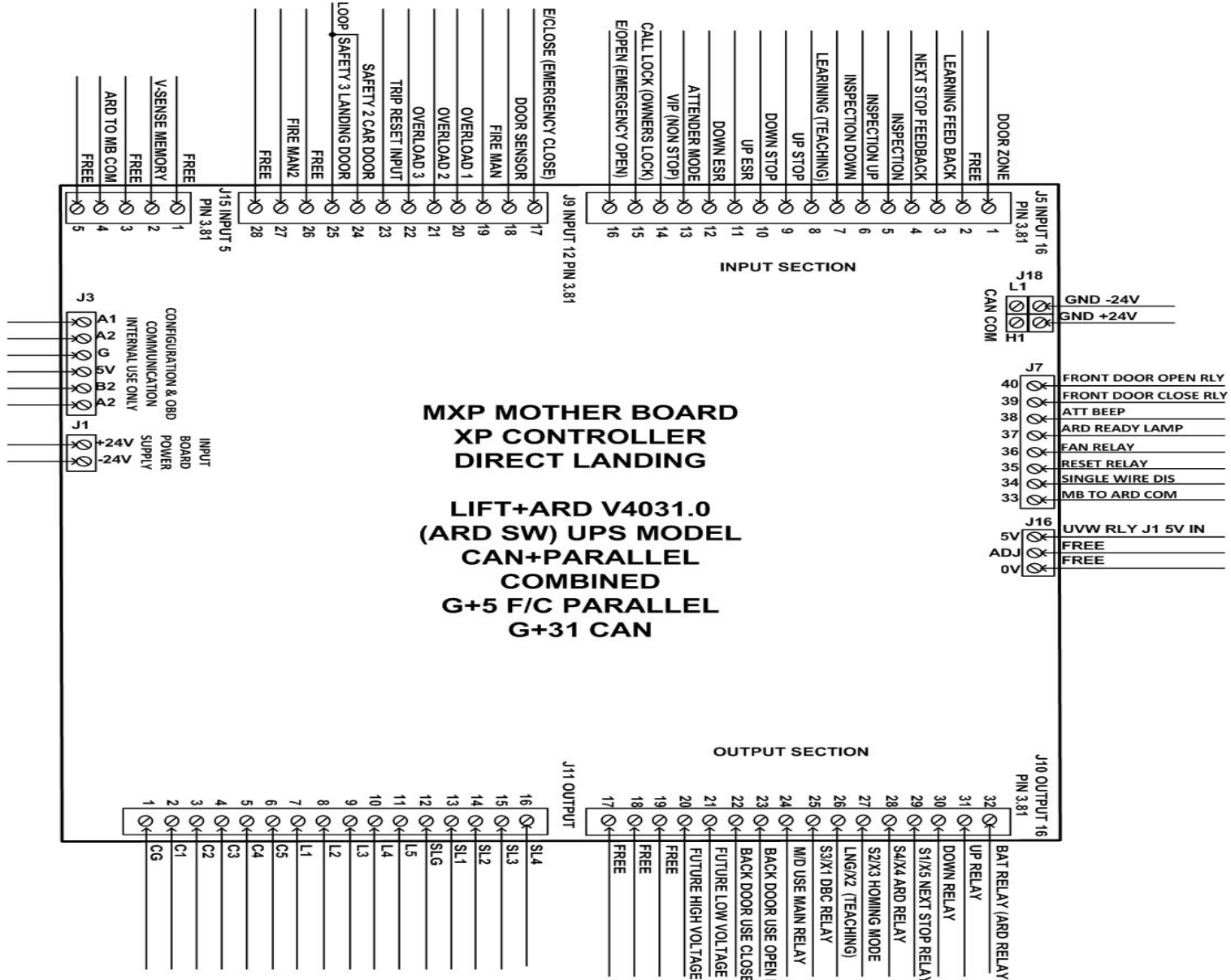
Mabara MXP Controller And Auto Rescue Device Catalog for Portable Direct Landing

1. HISTORY
2. ARD DETAILS
3. ERROR ON / OFF
4. ~~LEARNING DATA~~
5. PROG SETTINGS
6. ~~UP SLOW PROGRAM~~
7. ~~DOWN SLOW PROGRAM~~
8. OPTIONS
9. SPEED PROGRAM (P14 all default use only)
10. ~~POWER SUPPLY~~
11. ~~ON BOARD DIAGNOS~~
12. VIEW DATA
13. VIEW ARD DATA
14. DISPLAY FONT
15. VOICE SELECTION
16. CONFIGURATION
17. DOUBLE DOOR
18. OWNER'S LOCK
19. ASSESS CONTROL
20. CAN DETAILS

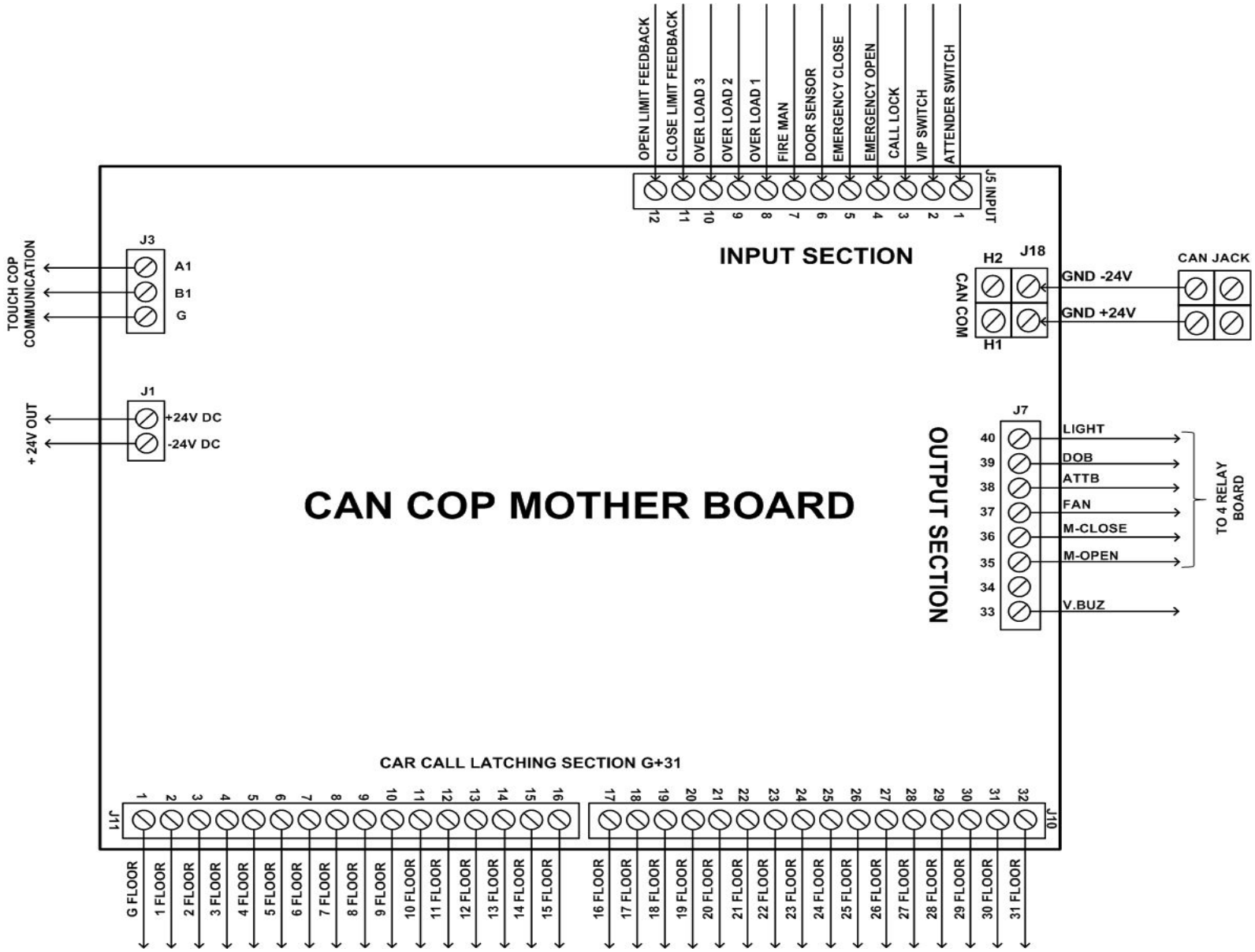
Thank you for purchase our Mabara elevators controller

DIRECT LANDING CAN MOTHER BOARD

MABARA



DIRECT LANDING CAN COP MOTHER BOARD



MAIN MENU

↓

1. HISTORY

Identifying the Error

↓

Reason to find out actual Issues

↓

Error Counting Storage

↓

Referring HISTORY , it simple to find out the ERROR / Non Function

.

MAIN MENU

↓

2. ARD DETAILS

→

V : 0.0 A : 0.00	**(Battery volt & Amps)**
CHARGE : Error	**(Charging Details)**
ARD Not Ready	**(ARD Condition)**
For Details >>>>	
V : 0.0 A : 0.00	**(Battery volt & Amps)**
CHARGE ERROR:	
E63:Batt OFF	**(Reason)**
V : 0.0 A : 0.00	**(Battery volt & Amps)**
ARD NOT READY:	
Major Lift Error	**(Reason)**

MAIN MENU

3.ERROR ON / OFF

Description	Error	Default Value	Meaning
Up + Down Stop	E0 0	ON	Up / Down Stop Sw itc h Error
Down Stop Struck	E0 1	ON	Down Stop Swi tc h E rror
Up Stop Struck	E0 2	ON	Up Stop Switch Error
Up + Down ESR	E0 3	ON	Up / Down ESR Error
Do w n ESR	E0 4	ON	Down E S R Error
Up ESR	E0 5	ON	Up ESR Error
Long Safety o ff	E0 6	ON	Safety 2 Open For Long Tim e
Car butt Struck	E0 7	ON	Car Push Button Switch Error
Land butt Struck	E0 8	ON	Land Push Bu tton Switch Error
Up Land but Struck	E0 9	ON	Selective Collect iv e Push Button Sw i tch Error
FRC open	E1 0	ON	Input Board F R C Connector Ope n
Board key Struck	E1 1	ON	Program Switch (4 n o) Struck E r ro r
Encoder not Ok	E1 2	ON	Encoder Error, Motor not Running, V3F drive trip Note: Adjust P26 for low speed lift or more floor height.
Door Zon e not Ok	E1 3	ON	Door Zon e Error
IO ca rd not Ok	E1 4	ON	Input Or Outpu t Board Failur e
Vmains fail	E1 5	ON	Stabilizersense Transformer E rror
DO /D C butt Struck	E1 6	ON	Door Open Close Switch Error
Electrical Fault	E1 7	ON	Electrical Fault
L ong S 3 o f f	E1 8	ON	Safet y 3 Open For Long T ime
~~Encoder Gap~~	~~E1 9~~	~~ON~~	~~Missing Pulse in Encoder Single~~

MAIN MENU

↓

3.ERROR ON / OFF (Continuation)

Description	Error	Default Value	Meaning
~~Encoderaccurac y~~	~~E2 0~~	~~ON~~	~~Space Gap of Encoder single in %.~~ ~~Note: 100%: means Very Good & 40% means Very B ad~~
Door Sensor	E2 1	ON	Auto Door Sensor failure. Note: Set "N" in OPT, 8 in case of no sensor
Stop & ESR Combi	E2 2	ON	Stop and ESR Mutual Switch Combination Err o r
Trip Signal	E2 3	ON	Trip Single Short or Open
Insp Switch Struk	E2 4	ON	Inspection up switch or Down Switch Short Error
Gxs tall	E2 5	ON	Group Controller out of Order
Single Phase Fail	E26	ON	One Phase Power fail
Two Phase Failed	E27	ON	Two Phase Power fail
Over Load combi	E28	ON	Over Load combination Error
Er r . Speed Feed ba k	E29	ON	Error Speed Feedback
Xpander CAN err	E30	ON	CAN Error
Future	E31	ON	
Future	E32	ON	

Learning Mode:

This mode allows the controller to learn the floor height, magnet position and makes the slow and level setting easier. Learning should be done before the normal is attempted. Too many errors would occur in normal if learning mode is not completed.

Precautions :

- Safety wiring should be perfect. There should not be any loose connection.
- P00 – Floor setting should be set correctly.

How to Start learning:

1) One magnet per floor must be fixed. Fix the magnet in the approximately location of each floor.

2) On Inspection Mode, Need to Keep LIFT above 1 Meter from DOWN ESR

3) On Inspection Mode have to make learn Switch On , then the lift will reach Base Floor Door Zone after a second lift start run automatically will reach TOP Floor

4) After reach Top Floor Mother Board Shows Leaning Successful.

3.ERROR ON / OFF (Continuation)

Display	Description
Learning switch ON	Learning switch is on. Inspection switch is off (or) Learning condition not Correct
LE 01	Learning Mode: Learning Switch Off
LE 02	Learning Mode: S2 Open
LE 03	Learning Mode: S3 Open
LE 04	Learning Mode: Inspection Switch Off
LE 05	Learning Mode: More Magnet than Floor Setting
LE 06	Learning Mode: Less Magnet than Floor Setting
LE 07	Learning Mode: Encoder Error
LE 08	Learning Mode: Up Stop struck (No connection)
LE 09	Learning Mode: Down Stop struck (No connection)
LEA	Learning Mode: Encoder signal is very noisy
L00	Indicates that the learning of the respective floor is completed
LXX	Indicates that learning up to XX floor is completed

5. PROG SETTINGS

Description	Display	Default Value	Option
Floor setting	P 0 0	0 3 F	0 1 F to 0 7 F
Up Slow %	P 0 1	3 5 %	1 0 % t o 6 0 %
Down Slow %	P 0 2	3 3 %	1 0 % t o 6 0 %
Deceleration Time	P 0 3	0 .0 0 s	0 .0 0 s to 2 .5 0 s
Door Open delay	P 0 4	2 .0 s	0 .0 s to 3 .0 s
Open Rly ON Time	P 0 5	6 .0 s	3 .0 s to 2 0 .0 s
O&C Rly Off time	P 0 6	1 .0 s	0 .0 s to 2 0 .0 s
Close Rly Time	P 0 7	0 .5 s	0 .0 s to 5 .0 s
Car move Time	P 0 8	1 .0 s	0 .0 s to 3 .0 s
Welcome Time	P 0 9	1 0 0 s	1 0 0 s t o 2 5 0 s
Fan Early Run	P 1 0	1 .0 s	0 .0 s to 1 0 .0 s
Fan Extra Run	P 1 1	6 .0 s	0 .0 s to 2 0 .0 s
L call Dir delay Close	P 1 2	5 .0 s	1 .0 s to 5 .0 s
L call Dir Delay Open	P 1 3	5 .0 s	1 .0 s to 5 .0 s
Safety CC level	P 1 4	2 5 s	0 5 s t o 2 0 0 s
Safety no level	P 1 5	2 5 s	0 5 s t o 2 0 0 s
~~Gong Bell Colour~~	~~P 1 6~~	~~0 7~~	~~0 0 A r ro w OFF~~ ~~0 1 R E D~~ ~~0 2 Gr e e n~~ ~~0 3 Or a n g e~~ ~~0 4 B lu e~~ ~~0 5 P in k~~ ~~0 6 S ky b lu e~~ ~~0 7 W h it e~~ ~~0 8 M ix B lin k~~ ~~0 9 R a n d o m~~ ~~1 0 M u lti mi x~~

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5. PROG SETTINGS (Continuation)

Description	Display	Default Value	Option
~~Gong Bell Music Type~~	~~P17~~	~~Tone :01~~	~~00 to 07 tone~~
Auto park Floor	P18	100 F	00 to 250 F
Auto Park Time	P19	6.0 m	0.5 m to 25.0 m
Break Time	P20	2.00 s	0.10 s to 2.50 s
S2 DOB Time	P21	1.0 s	1.0 s to 25.0 s
S3- DOB Time	P22	1.0 s	1.0 s to 25.0 s
Delay Emg. Press	P23	5.0 s	0.5s to 7.0 s
Display Font	P24	10	< Display Font>
~~Arrow style~~	~~P25~~	~~0~~	~~00 : 1 Type~~ ~~01 : 2 Type~~ ~~02 : : 3 Type~~
Elec fault time	P26	100 s	20s to 250 s
ARD Drive on delay	P27	5.0	1.0 s to 25.0 s
ARD o/p Volt	P28	250 V	180 V to 250 V
Dry Trip to ARD	P29	00 cn	00 cn to 100 cn
ARD Amps Dir.	P30	00A	00 A to 15 A
ARD Open Relay	P31	10.0 s	3.0 s to 20.0 s
ARD Door Open	P32	6.0 s	00 s to 20.0 s
ARD Close Relay	P33	12.0 s	0.0 s to 20.0 s
Insp Brake Time	P34	2.00 s	0.50 s to 2.50 s
~~Door Limit Sw~~	~~P35~~	~~00~~	~~00 : No OP / CL Limit sw~~ ~~01 : Only OP Limit Sw~~ ~~02 : Only CL Limit Sw~~ ~~03 : OP / CL Limit Sw~~

5. PROG SETTINGS (Continuation)

Description	Display	Default Value	Option
~~Hyd.G Floor time~~	~~P36~~	~~50 m~~	~~10 s to 250 s~~
~~Hyd. priming time~~	~~P37~~	~~00 m~~	~~00 m to 250 m~~
~~Door Open Floor~~	~~P38~~	~~255 F~~	~~00 F to 255 F~~
Vmains corr.	P39	164 fk	00 fk to 250 fk
~~Up Dzone Delay~~	~~P40~~	~~0 . 00 s~~	~~0.00 s to 2.50 s~~
~~Down Dzone Delay~~	~~P41~~	~~0 . 00 s~~	~~0.00 s to 2.50 s~~
All PGG Default?	P42	0	00 to 122
ARD Bonus Time	P43	00 s	00 s to 240 s
Warranty Month	P44	240 M	00 M to 240 M
Warranty Day	P45	30 D	00 D to 30 D
~~Call Xpander~~	~~P46~~	~~0~~	~~For Xpander : 123~~
~~Hy : Star – Delta~~	~~P47~~	~~0.5 s~~	~~00 s to 5.0 s~~
~~Hy : Delta Valve~~	~~P48~~	~~0.0 s~~	~~00 s to 5.0 s~~
~~Hy : Upslow – High~~	~~P49~~	~~0.0 s~~	~~00 s to 5.0 s~~
~~Hy : Delta xtraRun~~	~~P50~~	~~0.5 s~~	~~00 s to 5.0 s~~
~~Hy : DnsLow – High~~	~~P51~~	~~0.0 s~~	~~00 s to 5.0 s~~
~~Preventer Delay~~	~~P52~~	~~00 ms~~	~~00 ms to 20 ms~~
Fireman Floor	P53	01 F	00 F to 03 F (Dependant of No.of Floors)
~~Encoder Factor~~	~~P54~~	~~10~~	~~00 to 250~~
Double Tap CC	P55	0.0 s	0.0 s to 10.0 s

5. PROG SETTINGS (Continuation)

Note:

P00□□□Floor setting: set the top floor of the building including “G” floor ex: 03□means G+3

PO1□□□60% above Slowing Read switch Type

PO2□□□60% above Slowing Read switch Type

PGG (Program Menu)

□GG: **Program menu allows** you to set and view various parameters of lift and ARD mode. Excellent performance of elevator can be achieved if the parameters are tuned according to the site requirement.

Each PGG has its own minimum and maximum limits prefixed by mabara and the parameters shall be set only within this limit.

How to restore default values?

Follow the below procedure to restore the factory default values.

1.Put the lift the inspection mode

All unused floors are stored with default value of 50. Please ignore this value.

Auto Save

All the values will be stored automatically.

On every exit of PROGRAM menu to MAIN MENU you can see Memory : PGG/OPT Data saved USP, DSP, Learn, Speed PGG!! Witch indicates that the values are saved.

CAUTION

You cannot retrieve the old parameters once All PROGRAM Default is activated

8. OPTIONS

Description	Display	Default Value	Option
Floor Memory	OP T 0 0	Y E S	Y E S o r N O
Short Correction	OP T 0 1	N O	Y E S o r N O
Advance Fan	OP T 0 2	Y E S	Y E S o r N O
Land Call Fan	OP T 0 3	N O	Y E S o r N O
S3 try @ CorrDrv	OP T 0 4	Y E S	Y E S o r N O
Music Required ?	OP T 0 5	Y E S	Y E S o r N O
Top Floor 'T'	OP T 0 6	N O	Y E S o r N O
Always Door Open	OP T 0 7	N O	Y E S o r N O
Door Sensor Used	OP T 0 8	N O	Y E S o r N O
Door Open in ARD	OP T 0 9	N O	Y E S o r N O
ARD Door Rly ON	OP T 1 0	Y E S	Y E S o r N O
Door Close Rly ON	OP T 1 1	Y E S	Y E S o r N O
Trip signal Used	OP T 1 2	Y E S	Y E S o r N O
ARD always Down	OP T 1 3	N O	Y E S o r N O
All OPT default?	OP T 1 4	N O	Y E S o r N O
Door Open Buzzer?	OP T 1 5	N O	Y E S o r N O
Att.call latch?	OPT 16	NO	YES or NO
16x16 Animation ?	OPT 17	NO	YES or NO
Touch COP ?	OPT 18	YES	YES or NO
Touch COP Color ?	OPT 19	NO	YES or NO
Double Shunt ?	OPT 20	NO	YES or NO
Safety Loop ?	OPT 21	YES	YES or NO
Delay Up/ Dn Rly ?	OPT 22	NO	YES or NO
Last Call Reattn ?	OPT 23	NO	YES or NO
Reserved ?	OPT 24	NO	YES or NO

MAIN MENU

9. SPEED PROGRAM

Note: Below speed program remain the same, further no changes should made in the speed program for Direct Landing.

Description	Display	Option	Analog settings	Digital settings
Speed by Relay	P 0 0	0 0 to 0 1	0 0 (An a lo g In p u t)	01(Digital Input)
Low Speed 1	P 0 1	0 1 H z to 0 7 H z	0 7 H z	09 Hz
Low Speed 2	P 0 2	0 1 H z to 2 5 H z	1 0 H z	10 Hz
High Speed 1	P 0 3	0 1 H z to 5 0 H z	3 5 H z	26 Hz
High Speed 2	P 0 4	0 1 H z to 5 0 H z	4 0 H z	26 Hz
High Speed 3	P 0 5	0 1 H z to 5 0 H z	4 5 H z	26 Hz
High Speed 4	P 0 6	0 1 H z to 5 0 H z	4 5 H z	26 Hz
High Speed 5	P 0 7	0 1 H z to 5 0 H z	5 0 H z	26 Hz
High Speed 6	P 0 8	0 0 H z to 5 0 H z	5 0 H z	26 Hz
High Speed 7	P 0 9	0 0 H z to 5 0 H z	5 0 H z	26 Hz
High Speed 8	P 1 0	0 0 H z to 5 0 H z	5 0 H z	26 Hz
Inspec Speed	P 1 1	0 1 H z to 5 0 H z	2 5 H z	15 Hz
Correction Speed	P 1 2	0 1 H z to 5 0 H z	2 5 H z	15 Hz
ARD Speed	P 1 3	0 0 H z to 2 0 H z	0 7 H z	02 Hz
All Default	P 1 4	0 0 to 1 2 2	0 0	0
Acceleration time	P15	0.0 to 25.0 sec	2.80sec	0
Deceleration time	P16	0.0 to 25.0 sec	1.80sec	0

MAIN MENU

12. VIEW DATA

Input Data

000/216/DZ1/INS/

- Inspection Switch Input ON
- Door Zone Input ON
- Field R Phase Voltage
- Encoder Signal Count

INU/IND/LEA/UST/

- Up Stop Terminus Switch ON
- Learning Switch ON
- Inspection Down Switch Input ON
- Inspection UP Switch Input ON

DST/UES/DES/TIP/

- Drive Trip Relay Input ON
- Down Emergency Slowing Terminus Switch OFF
- Up Emergency Slowing Terminus Switch OFF
- Down Stop Terminus Switch ON

FIR/ATT/OV1/OV2/OV3

- Over load 3
- Over load 2
- Over load 1
- Attender Mode
- Firemen

S2/S3/1PF/2PF/NPR/

- NO Preventer
- Two Phase Fail
- Single Phase Fail
- Safety 3 ON
- Safety 2 ON

VIP/CKY/DOS/DCS/DSE/

- Door Open Sensor
- Emergency Door Close
- Emergency Door Open
- Call lock Key
- VIP Mode

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12. VIEW DATA (Continuation)

Output Data:
Code Pending !

W: 621966786 s → Warranty Time ON Seconds
Nxt CarStop : F00 → Next Car Stop : Floor
Nxt Ld- Stop : F00 → Next Land Down - Stop : Floor
Nxt Lu-Stop: F00 → Next Land Up-Stop : Floor
Next Stop: F00 → Next Stop : Floor
Dpot: 00% → For Factory Use
Vfb:0.0V NO Err (or)Min .Er (or) Npl.Er → For Factory Use
000:00:00 → For Factory Use
RFID DATA
Count : 00
Tena_RFID : 00

FINGER Data
Count : 00
Tena_FPID : 00

NOTE

Catalog All View Data's EXAMPLE :

13. VIEW ARD DATA

ARD HISTORY
Total ARD : 00
PASS : 00
FAIL : 00

ARD Trip Count
T00 : Reserved
Count : 00

T01 : Safety OFF
Count : 00

T02 : Battery Low
Count : 00

T03 :Long ARD
Count : 00

T04 :No Door zone
Count : 00

T05 :Too many att
Count : 00

T06 :Mosfet Short
Count : 00

T07 : Over Current
Count : 00

ARD Trip Count
T08 :Level Reached
Count : 00

T09 : Soft Start Er
Count : 00

T10 : Door Drive Er
Count : 00

T11 : A1 / A2 open
Count : 00

T12 : Reserved
Count : 00

T13 : IC Nr1 Error
Count : 00

T14 : Reserved
Count : 00

T15 : Reserved
Count : 00

14. DISPLAY FONT

F00 : GF
GF, 01, 02, 03

F01 : 01
GF, 01, 02, 03

F02 : 02
GF, 01, 02, 03

F03 : 03
GF, 01, 02, 03

NOTE : You can select the needed FONT and TEXT as per the floors

The above Display Font only for CAN PM Controller
(Can PM Direct Landing)

15. VOICE SELECTION

	You can select the floors and give voice as below
Floor : F00 Ground Floor	- 1st floor to 32nd floor - Ground floor
Floor : F01 1st Floor	- Upper Basement - Lower Basement - Basement.
Floor : F02 2nd floor	-Minus two -Minus One -Parking
Floor : F03 3rd floor	- Basement One - Basement two - Basement Three
Floor : F04 *** No Voice***	- Upper Ground - Lower Ground - Stilt Floor - Terrace - Celler - Mezzanine Floor

16. CONFIGURATION

Lift + ARD V : 1180.1 (Controller Version)
Sl. No. 00 12/11 (Controller Serial No) Max Floor : 7
(Maximum Floor) :7 (Maximum Floor)
ID : 00-00
Down / Full Collect (Collective Model)
V3F / Hydraulic Speed (Speed Model)
S3 Manual door (Door Type)
Simplex : G02 (Group Type)
Encoder / Vain Slowing (Slowing Type)

MAIN MENU

17. DOUBLE DOOR

You can select the Door opening for floors as given below

F00 – Front Open

F01 – Front open

F02 - Front Open

F03 – Front Open

Upto Selected Floors

Other Options For door Opening

No Opening

Front Open

Back Open

Both Open

18. OWNER'S LOCK

You can select the Options –

1. Lock

2. Unlock

F00- Lock

F01 – Lock

F02 – Lock

F03 - Lock

Upto Selected Floors

Note – This Lock and Unlock option will work Only when the key is given in 3rd Pin in the Call Lock

19. ACCESS CONTROL

F00 : Allow
Fingercount : 0
F01 :Allow
Fingercount : 0
F02 :Allow
Fingercount : 0
F03 :Allow
Fingercount : 0

This depends on the floor and Touch COP requirement

You can select the Options as below
1. Allow
2. Need RFID
3. Need Finger
4. RFID / Finger

MAIN MENU

20. CAN DETAILS

CAN Transmit :

Transmit error: **OK ! (or) Error**

Tx /Sec : 82 00

Rx /Sec : 37 00

CAN Car Top: **OK ! (or) Error**

Rx /Sec (N305) : 18 00

Rx /Sec (N307) : 17 00

CAN Encoder : Err

Rx /Sec (N344): 00

Enc/s : 0,0

Esync/s : 0

Missing LOP :

All CAN LOP OK ! (Or) F00/ F01/ F02/ F03

CAN Extra LOP : NO Extra LOP (or) F31

Check LOP DIPsw

Touch COP : Touch COP OK ! (or) Error

Frame settings: 18/sec 00 sec

Data : 0000h

RxTx/ Sec : 0118

CAN Load : 11%

CAN Max .Load :12%

L00 24.3 (or) No Responce

L01 24.3 (or) No Responce

L02 24.3 (or) No Responce

L03 24.3 (or) No Responce

L04 (or) No Response

DIRECT LANDING PANEL ADVANTAGES



ADVANTAGES:

- ✔**It has inbuilt ARD (Auto Rescue Device)**
- ✔**It gives smooth performance while its start and stop**
- ✔**ARD will start quickly after power shutdown (we can set timer for ARD mode)**
- ✔**It has an advantage of running the motor in full speed**
- ✔**It can adjust the speed as per the floor settings**
- ✔**Even if the distance between the each floor is 1 meter it can operate**
- ✔**It has single ARD transformer which have the benefits of multiple transformers**
- ✔**It is designed to be compact and easy to fix**