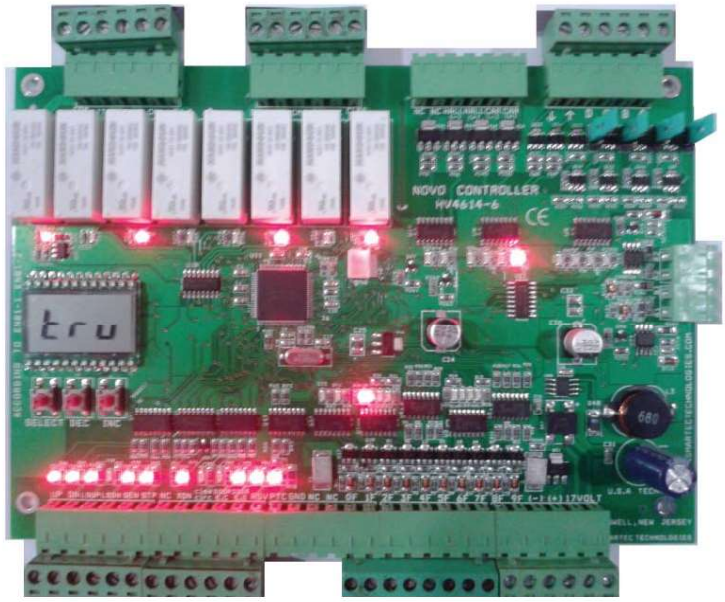
SMARTEC Technologies

NOVO Controller

HV4614-6

Arabic User Manual

Version: 9.1 p



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SMARTEC Technologies

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Publication number: MNH 224 1876 R1A

MNH 224 1876 R1A

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NOVO BOARD Elevator Control System

Can be up to 5 floors down collective in a single board,
and 10 stops down collective in serial communication.

SMARTEC Technologies specializes in the design and production of high technology electronic products. Today's electronic product development requires the skillful blend of expert hardware and software engineering together with a spirit of creativity and innovation, tempered by the practical concerns of manufacturability, cost consciousness, testability and on-time delivery. With hundreds of successful project completions, Smartec is uniquely suited to engineer your concept into reality. **Smartec** will work with your idea, perform detailed design, construct prototype units, refine the prototype design and manufacture your electronic product. Fast accurately, on time and on budget.

General Description:

NOVO Board Elevator Control System is a state-of-the-art high-speed Microcomputer based elevator control system that continuously collects and evaluates traffic demand patterns for each individual elevator car and the entire elevator system. Based on real time events when compared to predicted traffic conditions and anticipated system demands, the **NOVO** Board Elevator Control System automatically modifies its dispatching parameters to optimize system operation.

Individual elements of the **NOVO** Board Elevator Control System (Group Supervisory Panel, Car Control System, Motion Control System and Drive Control System) were created to interface in a cohesive manner to provide an elevator system with unmatched ride quality characteristics while exceeding the most stringent performance requirements.

NOVO Board Group Supervisory Panel Operating under standard serial communications protocol, the **NOVO** Board Group Supervisory Panel constantly monitors and analyzes changing traffic demands to predict the future movement of the entire elevator system and to create a real time traffic pattern scenario. Based in part on the following factors: (a) elevator status, (b) elevator direction of travel and hoist way position, (c) hall call assignments, (d) car call patterns, (e) door position, (f) stopping parameters, and (g) systems conditions, the **NOVO** Board Group Supervisory Panel automatically recognizes any fluctuations in traffic conditions and immediately adjusts the system operation.

Combining real time conditions, historical traffic patterns and predicted system demand, the **NOVO** Board Group Supervisory Control System continually creates an arrival time prediction diagram for each elevator car and constantly calculates the shortest waiting time when making a hall call assignment.

NOVO Board Car Control System Utilizing sophisticated **Smartec's** Microcomputer technology and advanced distributed controller design concepts, the **NOVO** Board Car Control System uses a distributed control network to provide an extremely powerful and incredibly flexible elevator control system. Operating under the Plug And Play® communications protocol (interconnected communication via high-speed serial data links), the **NOVO** Board Car Control System continuously distributes control to specific sections of the elevator car (elevator car top, elevator car operating panel, elevator hall fixtures, etc.) to provide superior system performance.

Alpha –numeric view on the LCD display

0	0	A	A	K	K	U	U
1	1	B	B	L	L	V	V
2	2	C	C	M	M	W	W
3	3	D	D	N	N	X	X
4	4	E	E	O	O	Y	Y
5	5	F	F	P	P	Z	Z
6	6	G	G	Q	Q		
7	7	H	H	R	R		
8	8	I	I	S	S		
9	9	J	J	T	T		

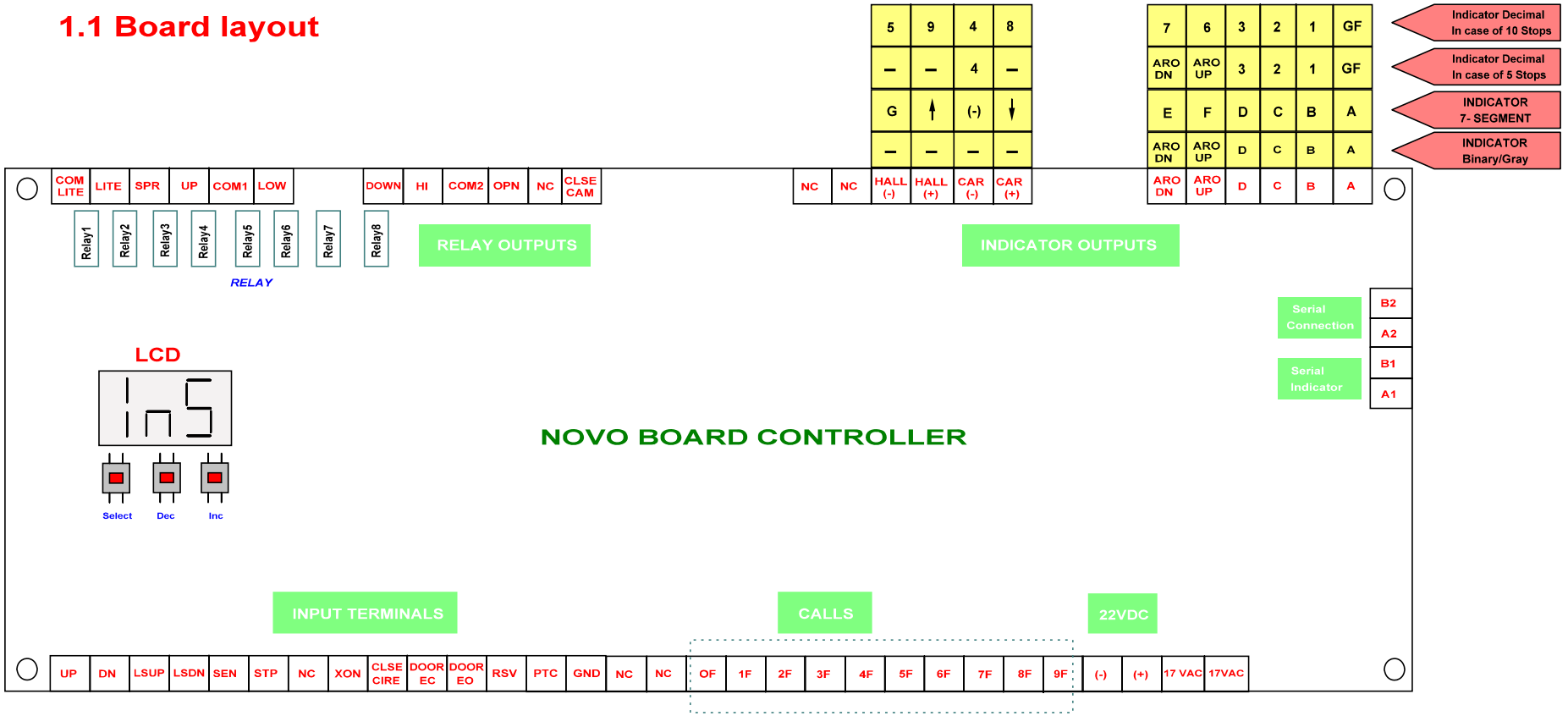
Main features

الميزات الأساسية

Platform Type	Risk processor
Type النوع	Single – Dual Speed - VVVF – Hydraulic
Mode طريقة العمل	Single (1Board) - Serial(2Boards) كارت واحد – كارتان بشكل تسلسلي
Fault Capture إلتقاط الأعطال	Display more than 200 fault messages يعرض أكثر من 200 رسالة خاطئة
Status information وضع المعلومات	Status of the elevator, door, mode and Limit switch Up &Down are displayed يعرض وضع المصعد والباب, طريقة العمل ونهاية الجولة عند الدور الأول والأخير
Fault count عد الأخطاء	Counts and saves the number and code of errors that occur يعد ويحفظ رقم ورمز الأخطاء التي تحدث
Shaft information معلومات تحرك المصعد	End of the Shaft in the Up and Down Direction نهاية الممر في الإتجاه صعوداً ونزولاً Slow down in the final stop in Up and Down Direction سرعة بطيئة عند الوصول الى البواط Level Zone مستوى الطابق Elevator position is saved at each stop حفظ الطابق
Indicator signal عرض إشارات المؤشر	Gray, Binary, 7- Segment and Decimal
Number of Stops عدد المحطات	5(down collective), 10(down collective in serial mode)
Door Type نوع الباب	Swinging, Automatic عادي , أوتوماتيك
Door Controls التحكم بالباب	3 input for control: ClSE CIRC / Door E.C / and Door E.O
Floor Stop Time وقت الوقوف عند الطابق	Can specify time of stopping at each floor تحديد وقت التوقف عند كل طابق
Car Light ضوء الكابين	Light time تحديد وقت ضوء الكابين خلال عمل المصعد
Home Floor timer توقيت توقف المصعد	Automatic Return to Home floor after preset time رجوع أوتوماتيكي الى توقف المصعد بعد ضبط الوقت مسبقاً
Inspection Mode معرفة طريقة العمل	Elevator goes to inspection/service mode يعمل المصعد للمعاينة (الصيانة) أو للخدمة
Drop Out إلغاء الطلبات	Cancels all the outside calls إلغاء كل الطلبات الخارجية
No Load لا حمولة إضافية	At preset floor, it will cancel all the inside calls if the door was closed سوف تلغى كل الطلبات الداخلية إذا كان الباب مغلق
Full Load حمولة كاملة	The elevator will not serve the out side calls لن يُلبي المصعد الطلبات الخارجية
Emergency Stop وقوف إضطراري	It will stop immediately and cancel all inside calls سوف يقف المصعد في الحال ويلغي كل الطلبات الداخلية
Fireman Operation عملية مفتاح الإطفائية	It will cancel all calls and go to Fireman floor سوف يُلغي كل الطلبات ويذهب الى طابق مفتاح الإطفائية

1. Board Description

1.1 Board layout



(-): Negative sign for 7- Segment display

_ : Not available

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Page Description:	Project:
Board Description (Board layout)	NOVO BOARD CONTROLLER

1.2 INPUT TERMINALS

UP	Magnetic switch Up direction	للإتجاه صعوداً
DN	Magnetic switch Down direction	**للإتجاه نزولاً**
LSUP	Limit switch Up direction	نهاية الجولة عند الإتجاه صعوداً
LSDN	Limit switch Down direction	**نهاية الجولة عند الإتجاه نزولاً**
SEN	Service enable	للخدمة
STP	Emergency Stop/ Fireman	**التوقف عند حدوث طارئ / مفتاح الحريق**
XON	Auxiliary ON contactor for UP/DN direction	
Clse Circ	Bypasses reclosing delay for automatic door/ defines the door status for swinging door , if its LED on the board is on= close, off=open	
Door E.C	Limit switch end of closing	نهاية تسكير الباب
Door E.O	Limit switch end of opening	**نهاية فتح الباب**
Last Fl/ RSV	Reserve	
PTC	Motor PTC	
SUP	Service UP is CALL **1F** in Inspection mode	**الخدمة صعوداً في حالة الصيانة**
SDN	Service DOWN is CALL **0F** in Inspection mode	**الخدمة نزولاً في حالة الصيانة**
17 VAC	Board power supply = 17vac	

1.3 CALL TERMINALS

0F	Floor 0 call
1F	Floor 1 call
2F	Floor 2 call
3F	Floor 3 call
4F	Floor 4 call
5F	Floor 5 call
6F	Floor 6 call
7F	Floor 7 call
8F	Floor 8 call
9F	Floor 9 call

1.4 OUTPUT TERMINALS for AC2 speed and VVVF

(-) 22 V	Biasing voltage from periphery supply –negative side (1)	الفولت السالب
(+) 22V	Biasing voltage from periphery supply – positive side (1)	**الفولت الموجب**
CLSE CAM	Cam contactor (3) / Close relay or contactor (2)	تسكير الباب
OPN	Open door relay or contactor (2)	**فتح الباب**
CM2	Common 2 for CLSE CAM and OPN	
HI	High speed contactor	**كونتاكتير للسرعة العالية**
LOW	Low speed contactor	كونتاكتير للسرعة البطيئة
DOWN	Down direction contactor	**كونتاكتير للإتجاه نزولاً**
UP	Up direction contactor	**كونتاكتير للإتجاه صعوداً**
SPR	Spare output	
CM1	Common 1 for HI, LOW,UP, DOWN, and SPARE	
LITE	Car light relay	**ضوء الكابين**
COM LITE	Common for LITE output	

(1) : Although this is not an output, it is listed with the outputs for convenience

(2) : For automatic door only

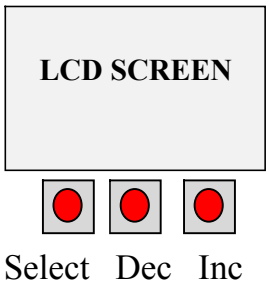
(3) : For swinging door

1.5 INDICATOR OUTPUT TERMINALS

A	Floor information A
B	Floor information B
C	Floor information C
D	Floor information D
↑	Arrow UP
↓	Arrow Down
CAR +	Reserved for switching mode and 7-segment display
CAR -	Reserved for switching mode and 7-segment display
HALL +	Reserved for switching mode and 7-segment display
HALL -	Reserved for switching mode and 7-segment display

2. PUSH BUTTONS

2.1 PUSH BUTTONS FUNCTION عمل المفاتيح (الكبسات)



Inc= Increment. To increase a parameter value or scroll up in parameters or pages in increasing order

Inc: تستعمل للإنتقال تصاعداً بين رموز الأرقام ولزيادة قيمة الرموز

Dec= Decrement. To decrease a parameter value or scroll down in parameters or pages in decreasing order

Dec: تستعمل للإنتقال نزولاً بين رموز الأرقام ولتنقيص قيمة الرموز

Select= To enter a parameter value and save it

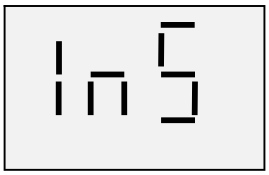
Select: تستعمل لتغيير قيمة الرمز ولتثبيت القيمة

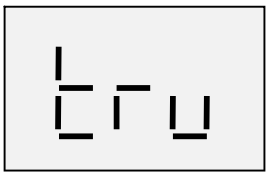
3. LCD SCREEN DISPLAY

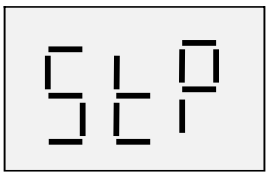
When the NOVO controller is powered up (17VAC),

The **mode** of the elevator will appear on the screen: **(Inspection , travel, or stop mode)**

According to the wirings that were made on the NOVO controller







حالات المصعد التي تعرضها الشاشة:

عند تشغيل لوحة التحكم بالمصعد (17VAC) سيظهر على الشاشة حالة المصعد (Ins, trv, StP) حسب التوصيلات الموضوعة على لوحة التحكم (Novo Controller)

إذا كان المصعد في حالة الصيانة سيظهر على الشاشة (InS)

إذا كان المصعد في حالة الإنتقال صعوداً أو نزولاً سيظهر على الشاشة (trv)

إذا كان المصعد في حالة التوقف سيظهر على الشاشة (StP)

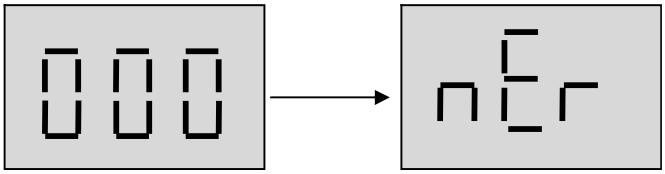
3.1 How to enter the ERROR PAGE

للدخول الى شاشة الأخطاء

Once you are in the main screen (not in parameter's list), Click **DEC** button to enter the **ERROR PAGE** , then it will display 000.

000 is the last error. Wait for 1 sec for error code.

عند الدخول الى الشاشة الأساسية إضغط على كبسة (DEC) وستظهر صفحة الأخطاء. سيظهر على الشاشة 000 آخر خطأ هو 000 . إنتظر لمدة ثانية لظهور رمز الخطأ.



Error Count
عدد الخطأ

Error Code
رمز الخطأ

(nEr indicates that there is **NO ERROR**).

Press on **INC button** to scroll between the error codes if more than 1 error occurred.

Novo can store the last 10 errors.
To leave ERROR List: Click the **SELECT** button to go to main page.

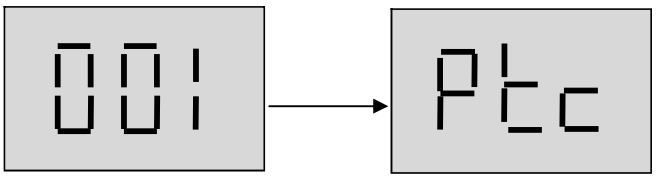
(nEr): هذا يعني عدم وجود خطأ .

عند حدوث أكثر من خطأ, إضغط على كبسة INC للإنتقال بين رموز الأخطاء

NOVO قادرة على تخزين عشر أخطاء.

للخروج من لائحة الأخطاء والرجوع الى الصفحة الرئيسية إضغط على كبسة SELECT

Example:



Error 1

Ptc (See section 3.2)

3.2 ERROR LIST DESCRIPTION AND SOLUTION وصف لائحة الأخطاء والحلول

Error Displayed on LCD العطل	Description الوصف	Controller Action العمل	Solution الحل
NOP	Motor powered but car didn't move إشتغل المحرك (Motor) ولكن المصعد لا يتحرك	Block عائق	Check the Brake or Pins, Turn electricity off then on. التأكد من المكبح (Brake) , قطع التيار ثم تشغيله
LUP	Limit switch Up fault بواط نهاية الجولة صعوداً	Block عائق	Check Switch up, Turn electricity off then on. التأكد من نهاية الجولة صعوداً, قطع التيار ثم تشغيله
LDN	Limit switch Down fault بواط نهاية الجولة نزولاً	Block عائق	Check Switch down, Turn electricity off then on. التأكد من نهاية الجولة نزولاً, قطع التيار ثم تشغيله
LUD	Limit switch up & Down fault بواط نهاية الجولة صعوداً ونزولاً	Block عائق	Check Switch up & Down, Turn electricity off then on. التأكد من نهاية الجولة صعوداً ونزولاً, قطع التيار ثم تشغيله
GAN	Gamma fails in contactor up فشل GAMMA في غلق الباب	Cancel calls إلغاء الطلبات	Check Gamma التأكد من Gamma
YAL	Yale is opened الغال مفتوح	Cancel calls إلغاء الطلبات	Check Yale التأكد من Yale
PTC	PTC overheating. Motor Temperature exceeds limits. سخونة المحرك حرارة المحرك تخطت الحدود	Elevator will not take calls after the first stops. المصعد لن يأخذ طلبات بعد أول توقف	Wait for motor to cool Or disable PTC. الإنتظار حتى يبرد المحرك أو فصلPTC
DOR	End of closing automatic door نهاية تسكير باب الأوتوماتيك	Door Blocked عائق في الباب	Check auto door limit switch التأكد من مفتاح باب الأوتوماتيك
STP	Stop key Error تعطل مفتاح التوقف	Complete cycle دورة كاملة	Check Stop Key. التأكد من مفتاح التوقف
PLS	Missed Pulses. إشارات مفقودة	Reset and make home trip إعادة تهيئة والقيام بجولة من الأول	Check the pins or magnet. التأكد من إشارات العد (pines or magnet)
ODR	Door Lock circuit open during travel دائرة إقفال الباب تفتح خلال الجولة	Wait for lock circuit, Cancel calls if fault persists more than 5 sec الإنتظار لإقفال الدائرة, إلغاء الطلبات إذا إستمرت المواصلة أكثر من 5 ثواني	Check Yale التأكد من Yale
OUT	System timeout عملية عد الأيام إنتهت	Block عائق	Contact the System Administrator. الإتصال بمسؤول الجهاز
SFT	Safety and Ready circuits are open دائرتي الأمان والإستعداد مفتوحتين	Waits for Ready circuit to close إنتظار دائرة الإستعداد للإقفال	Check Aux Nc or Yale التأكد من Aux Nc or Yale
DVF	Drive error	VVVF error	Check VVVF
UBL	unblock	-	-
BLC	Block	-	-
nEr	No error لا يوجد خطأ	-	-

NOVO Controller is capable of storing 10 errors on the LCD screen.
Novo controller قادرة على عرض 10 أخطاء على الشاشة على

3.3 How to enter the PARAMETER page

When the NOVO board is powered up with 17VAC , click the **SELECT** push button to enter the password.

The default password is 000 000

Note: 6 digits for the password will be displayed when you try to enter parameter page.
Because the LCD Screen of Novo can display only 3 digits, so the first 3 digits will
Be displayed at first, then the next 3 digits will be displayed.

When you Click the **SELECT** push button, the **first parameter P01** will appear on the screen.

If you click the **INC** button you will move to parameter **P02** and so on to scroll between parameters in **increasing order.**

If you click the **DEC** button, you will scroll between the parameters in **decreasing order**.

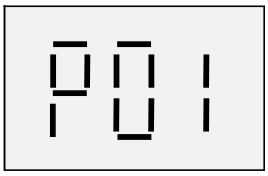
للدخول الى صفحة رموز الأرقام (Parameters)

عند تشغيل لوحة التحكم بالمصعد ب (17VAC) إضغط على كبسة SELECT لإدخال الرمز السري (Password)

الرمز السري هو 000 000

ملاحظة: عند الدخول إلى شاشة رموز الأرقام (Parameters) سيظهر على الشاشة 6 أرقام للرمز السري. بما أن شاشة NOVO تعرض 3 أرقام فقط فهذا يعني أن أول 3 أرقام من الرمز السري ستظهر ثم بعد ذلك ستظهر 3 أرقام أخرى من الرمز السري.

عندما تضغط على كبسة Select سيظهر أول رمز P01 على الشاشة

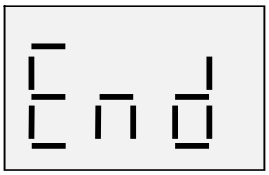


إذا ضغطت على كبسة INC مرة ثانية سيظهر ثاني رمز P02

للإنتقال بين رموز الأرقام بشكل تصاعدي إضغط على كبسة INC

للإنتقال بين رموز الأرقام بشكل تنازلي إضغط على كبسة DEC

There are 59 parameters, from P01 to P59. The end of the list specified as:



يوجد على الشاشة 59 رمز يبدأ بـ **P01** وينتهي بـ **P59** ثم تظهر كلمة **END**

3.4 TO CHANGE A PARAMETER VALUE:

Once you are in a certain parameter, for example P04, click **SELECT**, and the default value of P04, which is 0 (checking the table), will appear on the screen.

To change this value you can either click **DEC** **or** **INC** to scroll in the range of possible values for this parameter in increasing or decreasing order.

When you reach the value you want, click **SELECT** to choose and save that value for the parameter, and you will be back in the parameters list.

لتغيير قيمة الرمز:

عند الدخول إلى رمز معين لتغيير قيمته مثلاً P04 إضغط على كبسة Select , ستظهر قيمة الرمز (0) على الشاشة " أنظر إلى جدول الرموز " .

لزيادة قيمة الرمز إضغط على كبسة INC

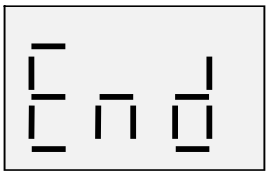
لتنقيص قيمة الرمز إضغط على كبسة DEC

عند الوصول إلى القيمة التي تريدها إضغط على كبسة Select لتثبيت وتحفيظ قيمة الرمز

3.5 TO EXIT AND LEAVE THE PARAMETERS LIST:

To leave the parameters list and go back to the main page

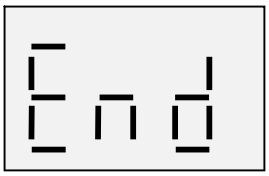
when you are in the parameters list, keep scrolling the parameter list with **DEC** or **INC** until you reach the END of the list:



Then click the **SELECT** button to exit to main page, where the mode of the elevator will appear on the screen (Inspection, Travel or Stop mode). See (Section **3**).

للخروج من شاشة الرموز والرجوع إلى الشاشة الأساسية:

عندما تكون في شاشة الرموز إضغط على كبسة INC أو DEC حتى تصل إلى كلمة END

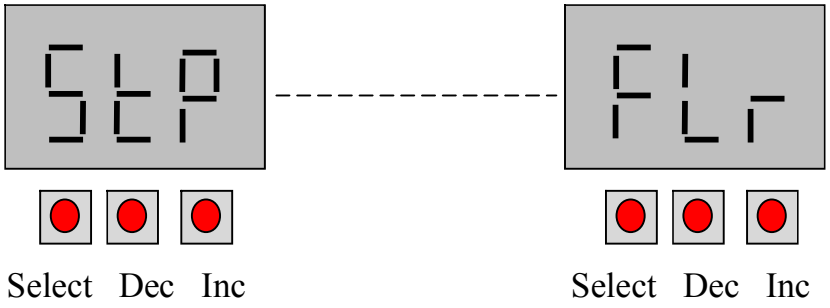


عندما تظهر كلمة END إضغط على كبسة Select للرجوع إلى الشاشة الأساسية حيث تظهر حالة المصعد:

(Ins, trv or Stp)

3.6 Function page:

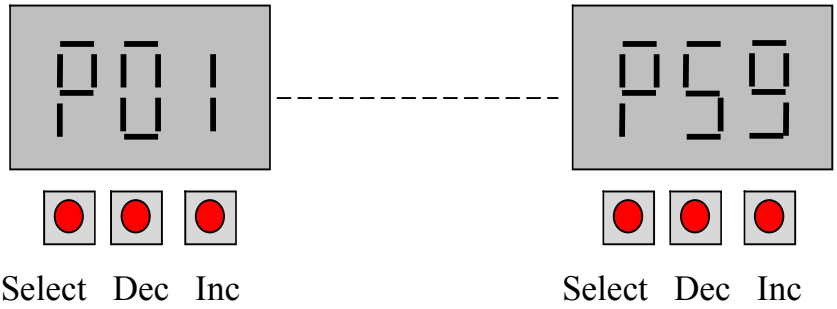
Main screen of NOVO الشاشة الرئيسية



There are 3 different pages as shown below. يوجد ثلاث صفحات

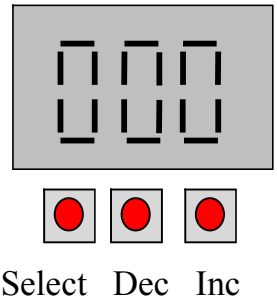
1. Parameter page: Press on **Select** button to enter Parameter page

1. صفحة الرموز: إضغط على كبسة Select للدخول الى رموز الأرقام

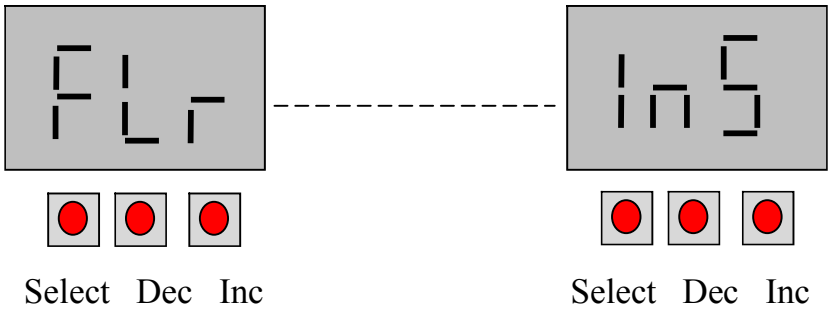


2. Error page: Press on **Dec** button to enter Error page

2. صفحة الأخطاء: إضغط على كبسة Dec للدخول الى صفحة الأخطاء



3. Function page:



How to Enter Function page:

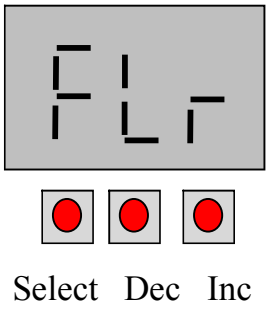
To enter function page press on **Inc** button.

This will appear on the screen

للدخول الي صفحة الطلبات:

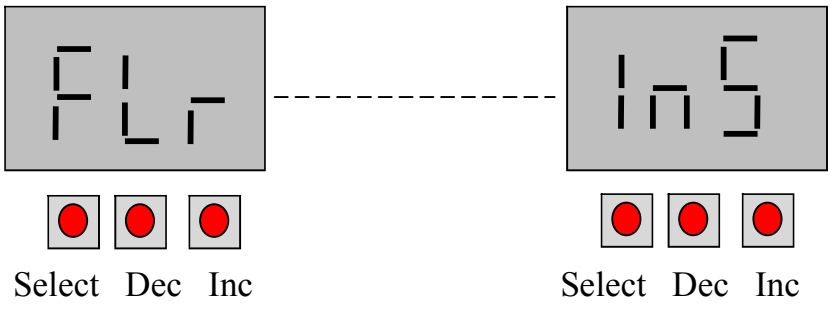
إضغط على كبسة Inc للدخول الى صفحة الطلبات.

سيظهر على الشاشة:



There are 2 sub-pages in the Function page :

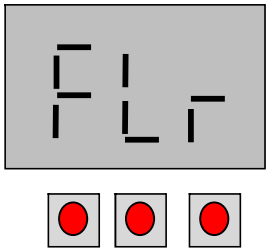
1. FLr page: Floor page is used to switch between calls "Floor Request" (FL0 → FL9)
2. Ins page: Inspection page is used for Inspection up or Inspection down.



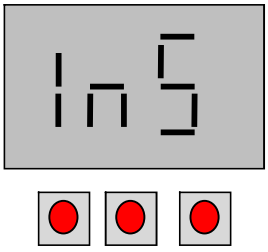
- To switch between FLr page and Ins page press on Inc button.
- To enter FLr page or Ins page press on Select button.
- To go to main screen from Function page press on Dec button.

تتألف صفحة Function page من صفحتين:

1. FLr page: تستخدم للإنتقال بين الطلبات (FL0 → FL9)
2. Ins page: تستخدم في حالة الصيانة صعوداً أو نزولاً.



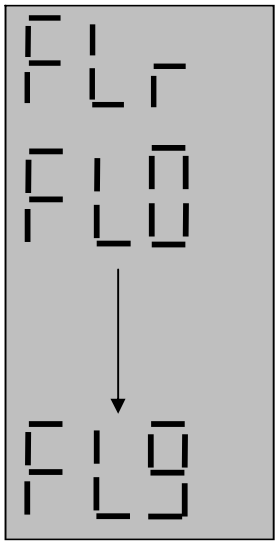
Select Dec Inc



Select Dec Inc

- للإنتقال بين صفحة الطلبات FLr page وصفحة الصيانة Ins page إضغط على كبسة Inc
- للدخول الى صفحة الطلبات FLr page أو صفحة الصيانة Ins page إضغط على كبسة Select
- للرجوع الى الصفحة الرئيسية من خلال Function page إضغط على كبسة Dec

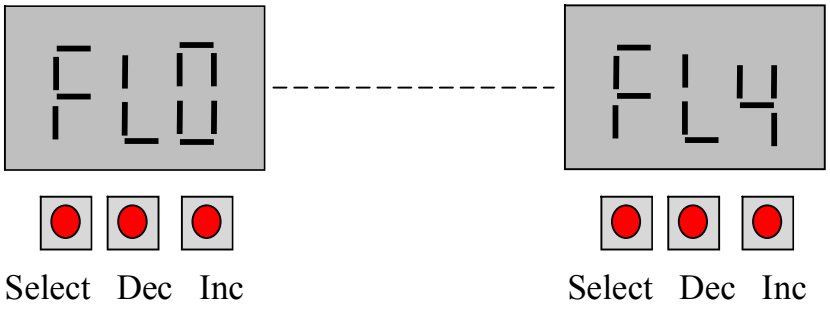
1. FLr page:



- To increase call press on Inc button.
- To accept Floor Request press on Dec button.
- To exit Flr page press on Select button.

لزيادة الطلب (Call) إضغط على كبسة Inc
لقبول الطلب إضغط على كبسة Dec
للخروج من صفحة الطلبات (FLr page) إضغط على كبسة Select

Example: How to move from FL0 to FL4:



- When you enter the FL0 page, press on Inc button until you reach FL4. Press on Dec button to accept the Floor Request.
- During travel the third digit "4" will remain blinking until the elevator reaches FL4.

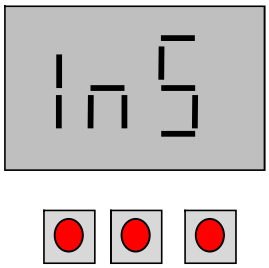
مثلاً: كيفية الإنتقال من FL0 الى FL4

عند الدخول الى FL0 إضغط على كبسة Inc حتى الوصول الى FL4. لقبول الطلب إضغط على كبسة Dec

خلال الجولة إن الخانة "4" ستبقى بالوميض (blinking) حتى يصل المصعد الى FL4

2. Inspection page:

When you enter the Ins page, the 3 digits "Ins" on the LCD begins to blink



- To exit Ins page press on Select button.

صفحة الصيانة:

عند الدخول الى صفحة الصيانة Ins page ستبدأ Ins بالوميض

للخروج من صفحة الصيانة (Ins page) إضغط على كبسة Select

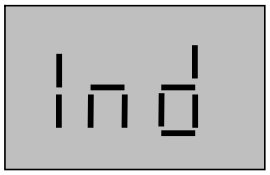
Inspection Up:

- To make Inspection up (Inu) , press on Inc button. In this case the first 2 digits "In" will stop blinking and the last digit "s" will be replaced by "u" and it remains blinking.

في حالة الصيانة صعوداً إضغط على كبسة Inc. في هذة الحالة ستتوقف "In" من الوميض ولكن ستبقى "u" بالوميض

Inspection Down:

- To make Inspection down (Ind) , press on Dec button. In this case the first 2 digits "In" will stop blinking and the last digit "s" will be replaced by "d" and it remains blinking.



في حالة الصيانة نزولاً (Ind) إضغط على كبسة (Dec) . في هذه الحالة ستتوقف "In" من الوميض ولكن ستبقى "d" بالوميض

4. LIST OF PARAMETERS

Parameter Numbers	Parameters Description on LCD	Parameters Full Description	Default Values	Values Range
P01	Flr Stp Tmr: Floor Stop Timer توقيت الوقوف عند كل طابق	Time between travels in sec مدة الوقوف على الطابق	3 sec	1 → 255 sec
P02	Door Type نوع الباب	Type of the door نوع الباب : عادي او أوتوماتيك	Swinging	0=Swinging 1=Automatic
P03	Level Zone مستوى الطابق	Level of each floor مستوى الطابق	0	0= None 1= N.C 2= N.O
P04	MX Cnt of Err: Max. Count of Error وصول الأعطال الى العدد المحدد	Maximum count before blocking أكثر عدد أعطال من الدرجة الثانية	0	0 → 202
P05	Basements الطوابق السفلى	Basement counts عدد الطوابق السفلى	0	0 → 9
P06	Home Floor الوقوف عند طابق معين	Floor of which the station is on الوقوف عند طابق معين إن لم يكن هناك طلبات	0	0…Last floor
P07	Home Flr Tmr: Home Floor Timer تحديد وقت كل طابق	Time out to go home floor وقت الذهاب الى الطابق المطلوب	0 sec	1 → 255 min
P08	No Load لا حمولة	Multi calls anybody open door عدد الطلبات من دون فتح الباب	0	1 → 9
P09	Collective الذاكرة	Switch between Down or Full collective حفظ الطلبات الخارجية صعوداً ونزولاً	1	0= Full 1= Down
P10	Homing on Pwr: Homing on Power رحلة أولية	If enabled, make a home trip at start up القيام برحلة أولية عند إعادة الكهرباء	1	0= Disable 1= Enable
P11	Truncate إلغاء الأخطاء	Empty the fault log إلغاء الأخطاء الحاصلة		N /A
		Automatic Door		
P12	Opn / Cls Dr Tm: Open / Close Door Time وقت فتح أو إغلاق الباب	The time of the open or close وقت فتح أو إغلاق الباب	6 sec	5 → 15 sec
P13	Park Stat Dr: Park Status Door حالة الباب	The status of the door when reach the station حالة الباب عندما يصل الى المحطة	Close	Close/Open
P15	Light Time وقت الإضاءة	Cabin light timer توقيت إضاءة الكابين	5 sec	1 → 60 sec
P16	Keep Close الإبقاء مقفل	Keep door active during travel إبقاء الباب مقفل خلال الجولة	0	0= Disable 1= Enable
		Secondary		
P17	Retry Gamma عدد محاولات Gamma	Number of retry عدد محاولات Gamma	3	0 → 10
P18	Rtry Gama Tmr: Retry Gamma Timer وقت عدد محاولات Gamma	Gamma retry timer وقت عدد محاولات Gamma	3	0 → 30 sec
P19	Negative Output	To enter negative signal for 7 segment from car(-)	0	0= Disable 1= Enable
P20	Pulse Timeout	After the magnet timeout has passed then the elevator will block الوقت بين إشارات المغناطيس لإيقاف المصعد	20 sec	1 → 255 sec

Parameter Numbers	Parameters Description on LCD	Parameters Full Description	Default Values	Values Range
P21	Yal Timer وقت الغال	Retry yale time to next retry delay in sec	5 sec	0 → 60 sec
P22	PTC- NTC	Motor temperature حرارة المحرك	0	0= NTC 2= PTC
P23	Fireman Floor *Note: must be different from P27* مفتاح الحريق يجب أن تكون مختلفة عن P27	Floor of fireman (Programmable input). Check section 4.1 for more details مفتاح الحريق	STP	- STP: Stop floor - Fx: x=0 → 5 - Ful: Full load - Drp:Drop out - LVL: level zone - CLS: Close delay
P24	Flr Expenson: Floor Expansion تحديد عمل الكارت	Floor Expansion. (check section 4.2 for more details) عدد محطات العمل	16	- 16: up to 5 stops down collective - 17: up to 10 stops down collective (switching mode) - 64: up to 10 stops none collective(Simplex(+) mode) - 96: up to 10 stops none collective(Simplex normal mode) - 128: up to 10 stops full collective
P26	Indctor Type: Indicator type نوع المؤشر	Specify the hall and car display type نوعية عمل المؤشر	0	0= Gray 1= Binary 2= 7 segment 3= Decimal
P27	RSV Input *Note: must be different from P23* يجب أن تكون مختلفة عن P23	Floor of fireman (Programmable input). Check section 4.1 for more details مفتاح الحريق	CLS	- STP: Stop floor - Ful: Full load - Drp:Drop out - LVL: level zone - CLS: Close delay
P30*	Lmt Reopen Dr Ins: Limit reopen During inspection	Limit reopen During inspection (mode of limit switch Up & down and opening of the door of the elevator during inspection) طريقة عمل نهاية الجولة عند الدور الأول والأخير وفتح الباب أثناء الصيانة	3	0= Disable limit Switch –Disable reopen During inspection 1= Enable limit Switch –Disable reopen During inspection 2= Disable limit Switch –enable reopen During inspection 3= Enable limit Switch –Enable reopen During inspection
P31	Count of Days عدد الأيام	Days of operation تحديد عدد أيام العمل	0	000
P36	Fmware Vrson: Firmware Version رقم البرنامج	The Firmware version of the board	3 digit version number	

Parameter Numbers	Parameters Description on LCD	Parameters Full Description	Default Values	Values Range
Hydraulic and VVVF Elevator				
P37	VVVF Hy Stp Dly: VVVF Hydraulic Stop Delay وقت وقوف الهيدروليك/ VVVF	Specify the stop delay for Hydraulic or VVVF وقت إلغاء الأوامر عند الوصول الى المحطة	0	0 → 50 in 100 ms
P38	VF HY Strt Dly: VVVF Start Delay وقت إقلاع VVVF	Specify brake to turn off after time finished at startup elevator وقت إعطاء الأوامر للمكبح للعمل عند بداية سير المصعد	0	0 → 30 in 100 ms
P39	V- Hi Spd Flr: VVVF high Speed Floor عدد الطوابق للقيام بأقصى سرعة VVVF	Specified when we can turn to super high speed	4	4 → 10
P40	Hi 2Md Spd Flr: VVVF Med Speed عدد الطوابق للسرعة المتوسطة	Specified when turn to medium speed before reach the request floor	2	2 → 5
P41	Spar2 Output طبيعة عمل مخرج Spare2	Very high speed output	Inspection	0= brake 1= inspection
P42	Hydr Strt Tm: Hydraulic Start Time وقت الهيدروليك	Specify Hydraulic start time after converting to delta وقت التغيير من Star الى Delta	0	0 →99
P44	Psnger Cpcty: Passenger Capacity إستيعاب الركاب	The maximum number of Cabin calls to ignore outside calls عدد الطلبات الداخلية لإلغاء تلبية الطلبات الخارجية	0	1 → 15
P45	Drv / VVVF Type: Drive VVVF Type نوع المحرك و VVVF	Type of engine نوع المحرك	AC2 Speed	0= AC2 Speed 1= VVVF ABB350 2= Hydraulic 3= VVVF Standard 4= VVVF 3-Speed 5=VVVF Fuji 2-Speed 6=VVVF Fuji 3-Speed
P47	Board Type نوع Board	Choose board type for serial communication نوع Board	None	0= none 1= cabin 2= panel
P48	User Pass: User Password الرقم السري	Password of the user الرقم السري	000 000	******
P50	Input Value	To see the input value of the board		N/A
P51	LCD	Display mode	1	0= Digit 1= Number
P52	First Stop	To start the indicator from floor 1 بدء عد المؤشر من الطابق الأول	0	0= Disable 1= Enable
P53	Double Door تحديد الطوابق التي لديها بابين	Selection mode for dual door opening on certain floors.	Dis	Ena:Enable Dis:Disable Sel: Select
P54	Close Circuit/ SEN نوع فتح الباب	Close Circuit or SEN to work active low or active high . طبيعة فتح الباب (مفتوح أو مسكر)	0	0= NC - NC 1= NO - NC 2= NC - NO 3= NO - NO
P56	Fuji Ena Delay	Makes delay at stop for enable inverter output تأخير إشارة Inverter أثناء الإقلاع في حالة Fuji VVVF	0	0 → 30

Parameter Numbers	Parameters Description on LCD	Parameters Full Description	Default Values	Values Range
P57	RVL	Relevel Option: Level of the floor in case of Hydraulic مستوى الطابق في حالة الهيدروليك (في حال عدم وجود طلبات)	Sel	Dis: Relevel is disabled. Sel: Relevel is done only when the door is closed and elevator has no calls to serve. Aly: Relevel is done when the elevator is opened or closed and ignores close circuits.
P58	Relevel time	During Relevel if this time end, the elevator will block في حال إنتهاء الوقت المحدد خلال تحديد مستوى الطابق فإن المصعد سيتوقف	5	0 → 20
P59	Fact Default: Factory Restore	Restore factory settings		
	END	To exit the parameters للخروج من شاشة الأرقام		

*Note: Characteristics of P30 if P51 =0

Parameter Numbers	Parameters Description on LCD	Parameters Full Description	Default Values	Values Range
P51	LCD	Display mode	0	0= Digit 1= Number
P30	Lmt Reopen Dr Ins: Limit reopen During inspection	Limit reopen during inspection (mode of limit switch Up & down and opening of the door of the elevator during inspection) طريقة عمل نهاية الجولة عند الدور الأول والأخير وفتح الباب أثناء الصيانة	LRE	LRD= Disable limit Switch –Disable reopen During inspection LEN= Enable limit Switch –Disable reopen During inspection REN= Disable limit Switch –enable reopen During inspection LRE= Enable limit Switch –Enable reopen During inspection

4.1 Programmable Inputs(RSV and STP)

NOVO board has **2 programmable inputs (RSV and STP)**

It can be programmed by changing the values of P23 & P27

CODE	DESCRIPTION	USE
STP	Stop floor	Click the button to stop the car
Fx	x= from 0 to 9	Click the button to stop at one certain floor from F0 to F9 for fireman emergency in P23 only
Ful	Full load	Stop the car when there is over-capacity
Drp	Drop out	Cancel all outside calls
lvl	Level zone	Level the car in the correct position in case there were missed pulses
cls	Close delay	To close the door

Note: P23 & P27 must have different values

4.2 Choosing P24 according to certain floor expansion

CODE	Description
16	**Up to 5 stops down collective**
17	**Up to 10 stops down collective** (SWITCHING mode)
64	**Up to 10 stops none collective** (SIMPLEX (+) mode), when travelling down, **only takes 1 outside call going down** as long as it is below the position of the car. If you want to go to GND floor, and floor 2 for example requested a down travel, the car will stop at 2 and continue down travel.
96	**Up to 10 stops none collective** (SIMPLEX normal mode)
128	**Up to 10 stops full collective** **BUT!** Inside and outside calls are the same (connected to each other)

4.3 Characteristics of Parameter (P54) :

P54		
Value	**CLSE CIRC**	**SEN**
0	NC: normally close	NC: normally close
1	NO: normally open	NC: normally close
2	NC: normally close	NO: normally open
3	NO: normally open	NO: normally open

5. Speed table for FUJI inverters

Use **P38** parameter for VVVF start delay, where (UP or Down) direction logic is set ON, it will delay to set (HI, Spare or Low **in the table below**) to ON

Use **P37** parameter for VVVF stop delay, where (HI, Spare, or Low) are ON, it will delay to set (UP or Down) to OFF

Put P45 = (5) For FUJI VVVF 2-speed:

Speed Ref	UP	Down	HI	LOW	Spare	CAR(-)	Relays of NOVO controller
	FWD	REV	(X3)	(X2)	(X1)	Enable inverter	Connections on Fuji drive
Zero speed (0000)	OFF	OFF	OFF	OFF	OFF	OFF	
Intermediate speed 1 UP (10001)	ON	OFF	OFF	ON	ON	ON	
Intermediate speed 1 DN (01001)	OFF	ON	OFF	ON	ON	ON	
Inspection speed UP (10010)	ON	OFF	OFF	OFF	ON	ON	
Inspection speed DN (01010)	OFF	ON	OFF	OFF	ON	ON	
High speed UP (10111)	ON	OFF	ON	OFF	OFF	ON	
High speed DN (01111)	OFF	ON	ON	OFF	OFF	ON	

Put P45 = (6) For FUJI VVVF 3-speed:

Speed Ref	UP	Down	HI	LOW	Spare	CAR(-)	Relays of NOVO controller
	FWD	REV	(X3)	(X2)	(X1)	Enable inverter	Connections on Fuji drive
Zero speed (0000)	OFF	OFF	OFF	OFF	OFF	OFF	
Intermediate speed 1 UP (10001)	ON	OFF	OFF	ON	ON	ON	
Intermediate speed 1 DN (01001)	OFF	ON	OFF	ON	ON	ON	
Inspection speed UP (10010)	ON	OFF	OFF	OFF	ON	ON	
Inspection speed DN (01010)	OFF	ON	OFF	OFF	ON	ON	
Intermediate speed 2 UP (10100)	ON	OFF	ON	OFF	OFF	ON	
Intermediate speed 2 DN (01100)	OFF	ON	ON	OFF	OFF	ON	
High speed UP (10111)	ON	OFF	ON	ON	ON	ON	
High speed DN (01111)	OFF	ON	ON	ON	ON	ON	

5.1. Drive VVVF Type

VVVF Standard Speed: Select VVVF type (P45=3)

Use VVVF Start Delay P38 and VVVF Stop Delay P37
Positive Value: VVVF selected with speed reference disengaging before direction.
Negative Value: VVVF selected with direction reference disengaging before speed.

Speed Ref.	UP	Down	HI	Low	Eout
	Direction		Speed		
Zero Speed	OFF	OFF	OFF	OFF	OFF
UP High Speed	ON	OFF	ON	OFF	OFF
Down High Speed	OFF	ON	ON	OFF	OFF
UP Low Speed	ON	OFF	ON	ON	OFF
Down Low Speed	OFF	ON	ON	ON	OFF
UP Inspection Reset	ON	OFF	OFF	ON	OFF
Down Inspection Reset	OFF	ON	OFF	ON	OFF
During Reset High	OFF	ON	ON	OFF	ON
During Reset Low	OFF	ON	ON	ON	ON

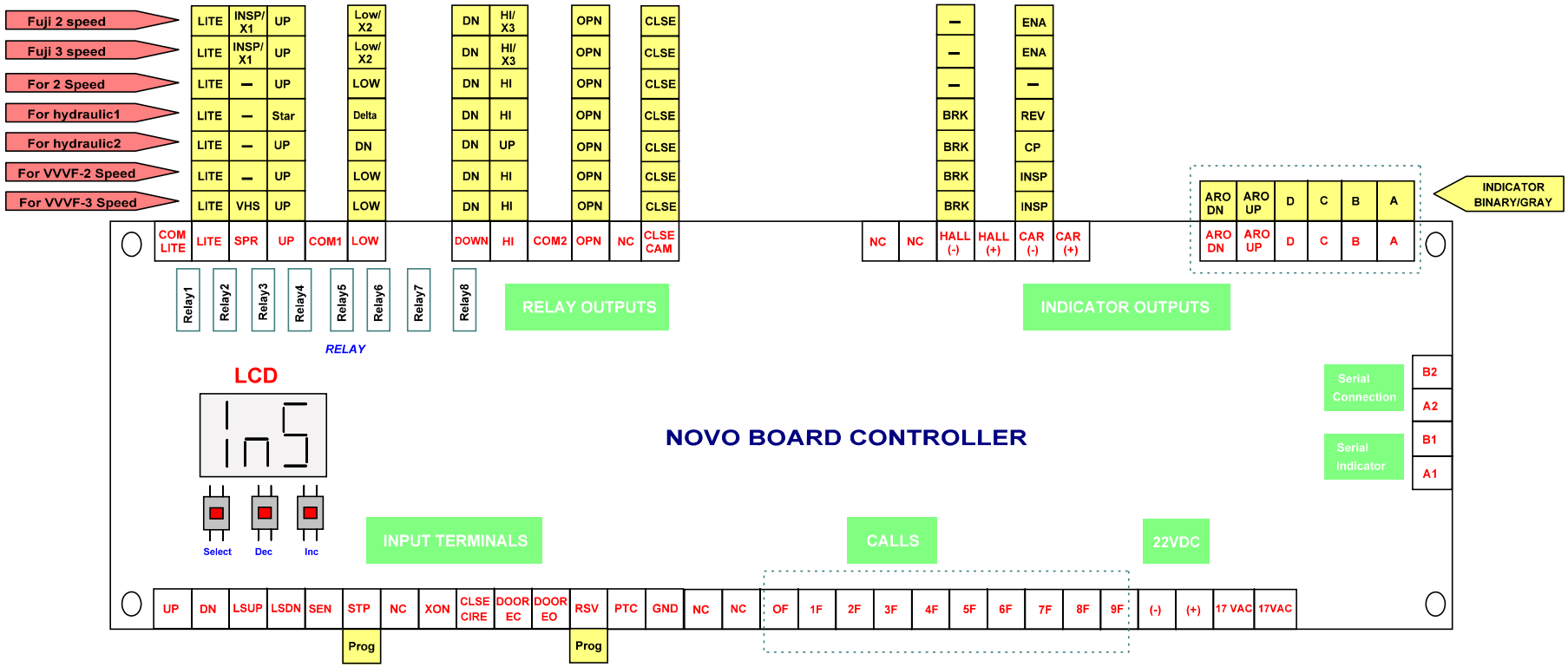
VVVF 3-Speed: Select VVVF type (P45=4)

Use VVVF Start Delay P38 and VVVF Stop Delay P37
Positive Value: VVVF selected with speed reference disengaging before direction.
Negative Value: VVVF selected with direction reference disengaging before speed.

Speed Ref.	UP	Down	HI	Low	Relay	Eout
	Direction		Speed			
Zero Speed	OFF	OFF	OFF	OFF	OFF	OFF
UP Slow Speed	ON	OFF	ON	ON	OFF	OFF
UP Medium Speed	ON	OFF	ON	OFF	OFF	OFF
UP Hi Speed	ON	OFF	OFF	OFF	ON	OFF
Inspection UP	ON	OFF	OFF	ON	OFF	ON
Down Slow Speed	OFF	ON	ON	ON	OFF	OFF
Down Medium Speed	OFF	ON	ON	OFF	OFF	OFF
Down Hi Speed	OFF	ON	OFF	OFF	ON	OFF
Inspection Down	OFF	ON	OFF	ON	OFF	ON

6 . CONTROLLER CONNECTION

6.1 Terminals Position on the Board



VHS : very high speed	CP : contactor CP	SLO/X2: Slow speed x2
BRK : Break	Prog: Programmable	Hi/X3: High speed x3
REV: Releveling	INSP: Inspection	INSP/X1: Inspection speed X1
		ENA: Enable Inverter

*** A2 and B2 are for Serial connection cabin and Panel board ,to extend down collective stops to 10 stops**

*** A1 & B1 are reserved for serial indicator "SMARTEC" and landing calls**

Note: If you use Serial Indicator connection , do not use the above Indicator connection " A,B,C,D,Aro Up & Aro Down"

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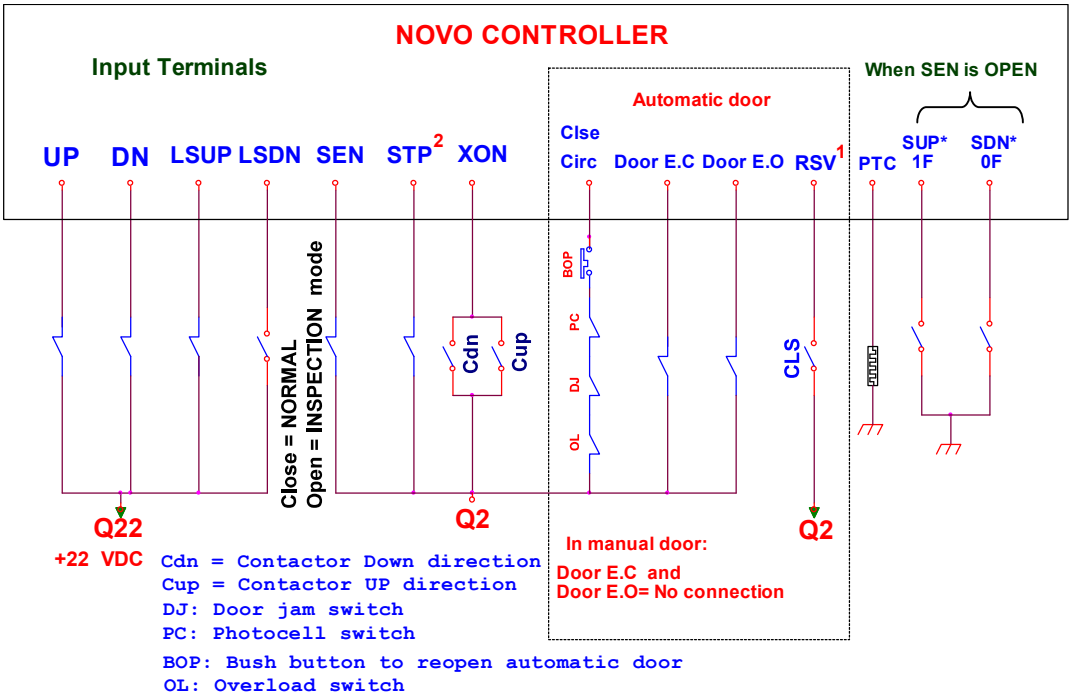
Page Description:	Project:
TERMINALS POSITION ON THE BOARD	NOVO BOARD CONTROLLER

7. INPUT CONNECTIONS

ATTENTION!

All voltages on inputs of the controller (+22V DC) must be supplied from the same transformer.

1- AT NORMAL MODE, STOP STAGE (GROUND LEVEL) :

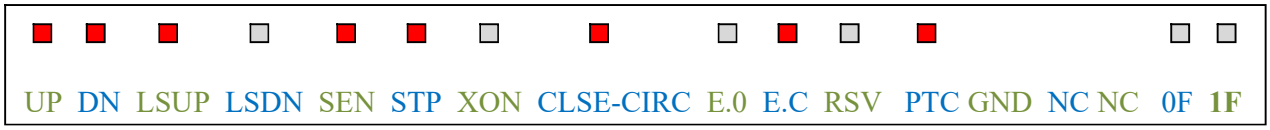


[1]: See Parameter P27

[2]: See Parameter P23

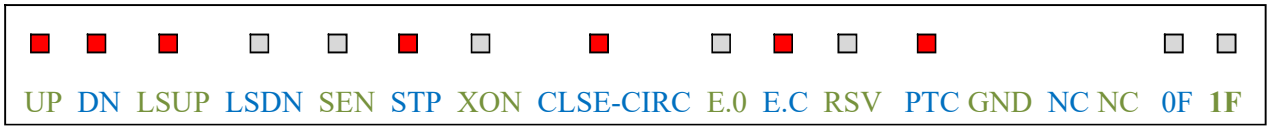
(*) These 2 inputs are service up and service down **only in inspection mode,** otherwise they are calls
Where **LSDN and RSV (Last Fl.)** are normally open **N.O**
UP, DN, LSUP, and **CLSE CIRC** are normally close **N.C**

LED Diagram lighting for inputs in NORMAL mode (At ground level) on the board:

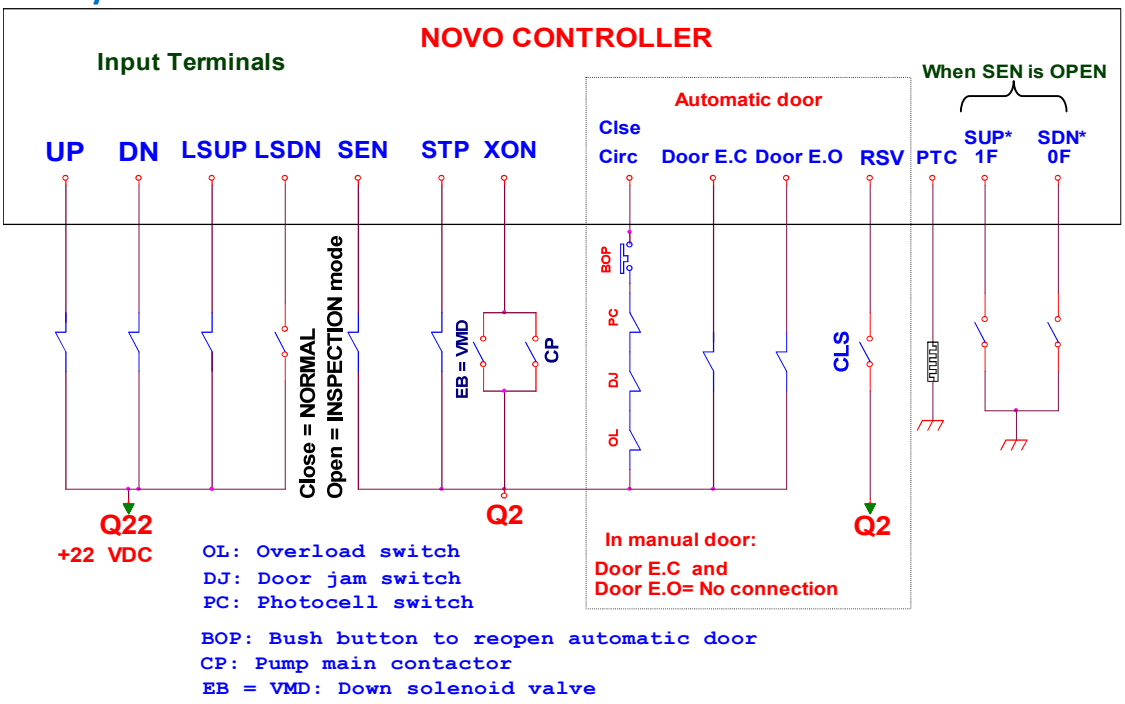


In case P22=PTC , LED is off
P22=NTC, LED is on

LED Diagram lighting for inputs in INSPECTION mode (At ground level) on the board:



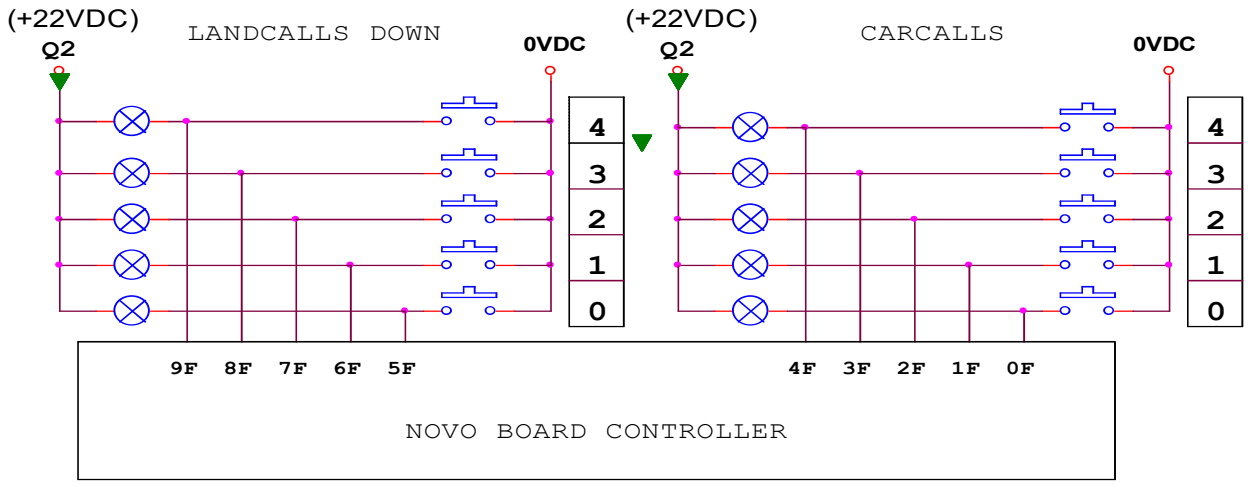
2- Hydraulic Mode



7.1 CALL CONNECTIONS

Novo board has 10 input/output pins or calls from 0F to 9F.
Their connection can be made up to **5 –stops down collective** (using 1 Novo board),
or up to **10-stops down or non collective**(using 2 Novo boards in serial-communication).

7.1.1 5-stops down collective



7.1.2 10-stops down collective (serial mode)

Check (page 39) for wiring diagram

7.1.3 Simplex mode :10-stops not- collective

Check (page 40) for wiring diagram

7.1.4 Switching mode :10-stops Down- collective

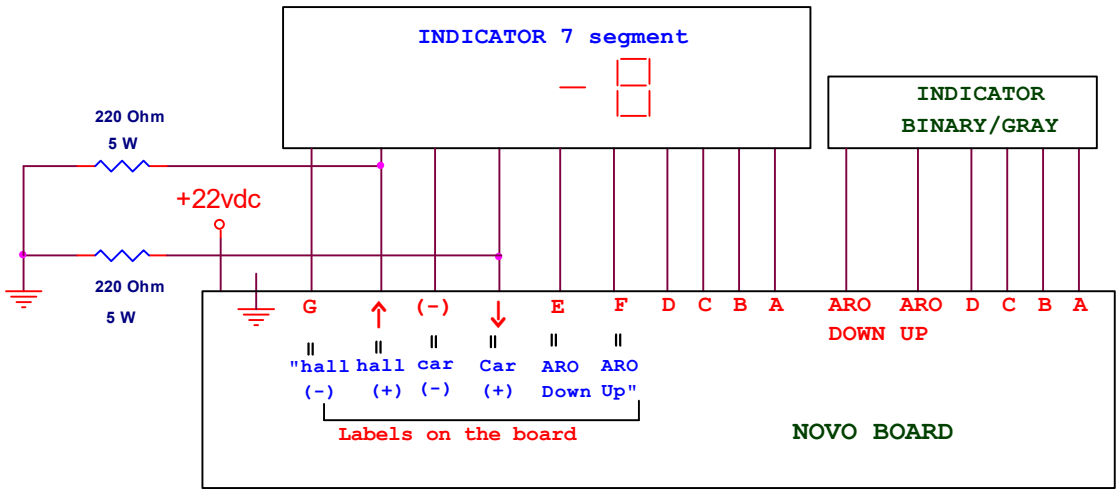
Check (page 41) for wiring diagram. 7-segment indicator not applicable for switching mode.

7.1.5 Standard mode :5-stops Down- collective

Check (page 42) for wiring diagram.

7.2 INDICATOR CONNECTIONS

BINARY, **GRAY**, and **7-Segment** indicators.



Note: In case of use Arrow up & Arrow Down in 7-Segment only, install 2 resistances (220 Ohm, 5 W) each as shown in the diagram above. "7-Segment is active low only"

Decimal indicator

In case of 5 Stops	
Label on the Board	**Decimal Indicator**
A	GF
B	1
C	2
D	3
Car(-)	4

In case of 10 Stops	
Label on the Board	**Decimal Indicator**
A	GF
B	1
C	2
D	3
Aro Up	6
Aro Down	7
Car(+)*	8
Car(-)	4
Hall(+)*	9
Hall(-)	5

* Note: In case of use Car(+) & Hall(+) in Decimal Indicator "10 Stops" only, 2 resistances (220 Ohm, 5 W) each must be installed and connected to Gnd. "Decimal is active low only"

7 Segment :

A,B,C,D must be selected **ACTIVE LOW (check jumper position in section 8)**

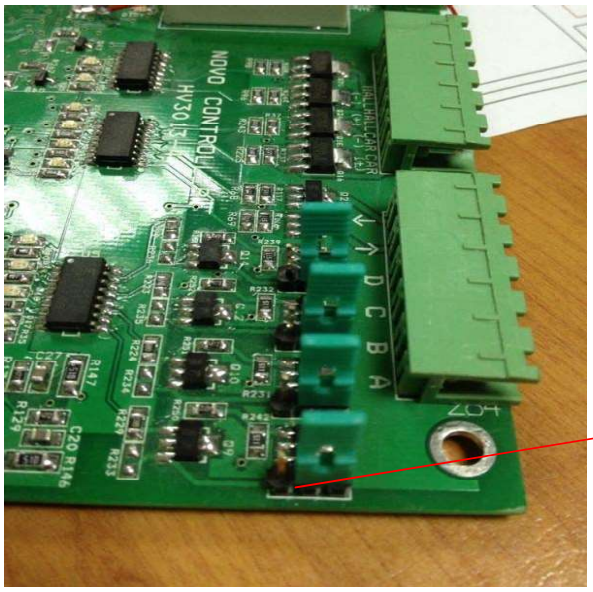
ARO UP and ARO Down are **ACTIVE HIGH** always.

Binary /Gray code :

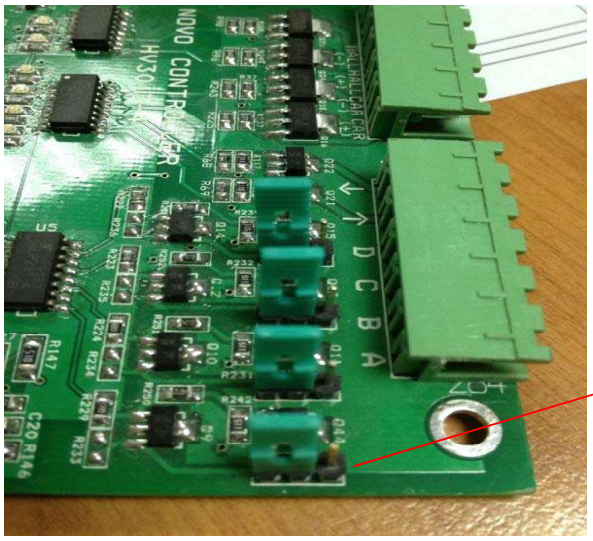
A,B,C,D can be selected either **ACTIVE LOW or ACTIVE HIGH**.

ARO UP and ARO DOWN are **ACTIVE LOW**

8. Changing jumper position for A, B, C and D for active high or low

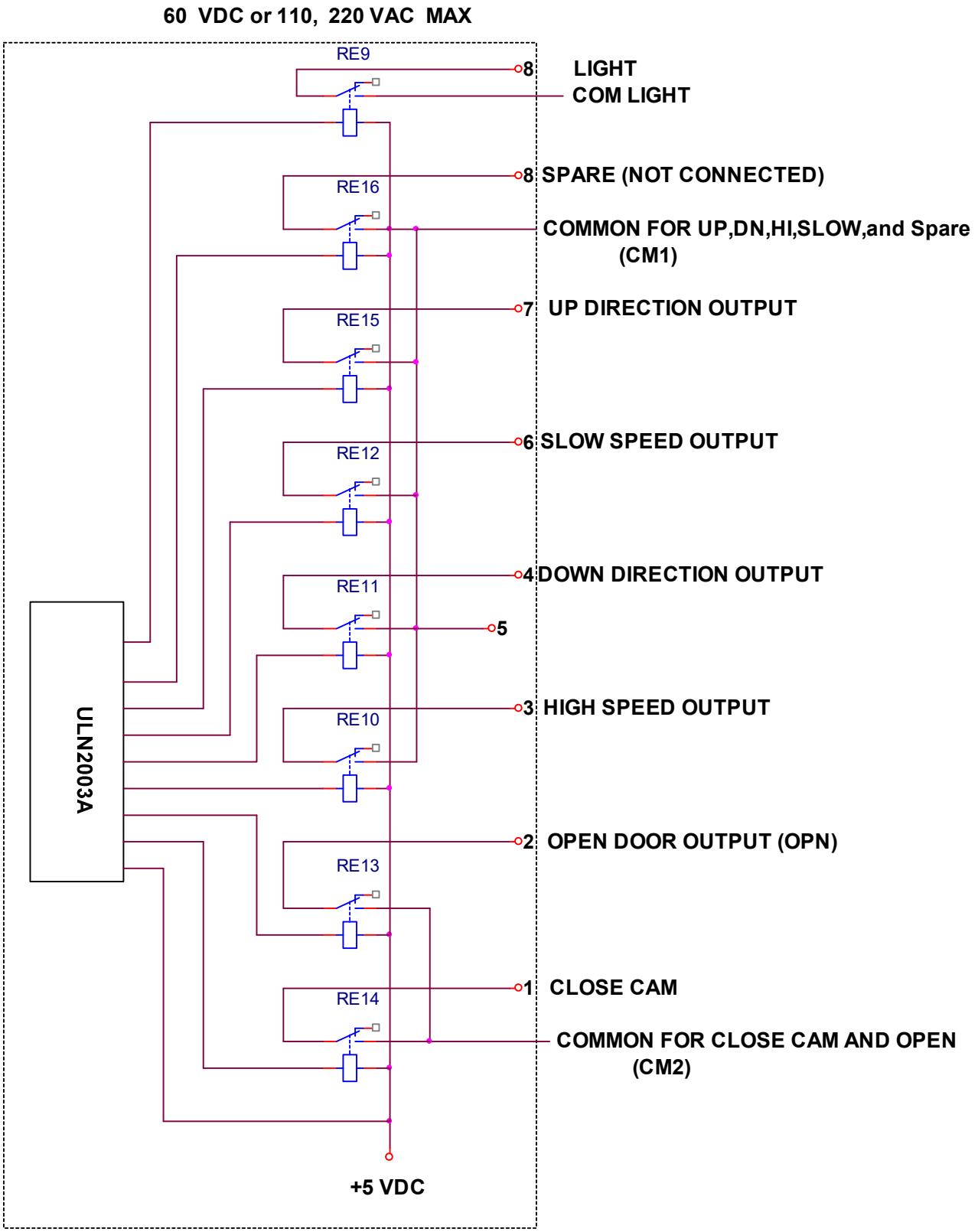


Last pin empty =Active Low



First pin empty =Active High

9. RELAY OUTPUT CONNECTIONS



10. Double door تحديد الطوابق التي لديها بابين

10.1 Serial double Door up to 5 Stops with all have double doors:

Double door entrance

Double doors can be programmed by **P53** to open one of the double doors inside the elevator car from GF to 4th floor.

CONNECTIONS FOR THE 2ND DOOR :

-Close and Open **OUTPUTS : Door Open = CAR (+) , Door Close= Hall (+)**

-Close and Open **INPUTS : Door E.C= Last fl. or RSV , Door E.O= STP**

10.2 Cabin Board: Inside calls " A " door and " B " door

0F	1F	2F	3F	4F	5F	6F	7F	8F	9F
0 InA	1 InA	2 InA	3 InA	4 InA	0 InB	1 InB	2 InB	3 InB	4 InB

0F	1F	2F	3F	4F	5F	6F	7F	8F	9F
0 OutA	1 OutA	2 OutA	3 OutA	4 OutA	0 OutB	1 OutB	2OutB	3 OutB	4 OutB

10.3 Close and open Output for the Double Door:

2nd door open output = cabin board slow
2nd door close output = cabin board down

Close delay for door A is Cabin board RSV
Close delay for door B is Cabin board STP

RE open door A is RE Open
RE open door B is cabin board XON

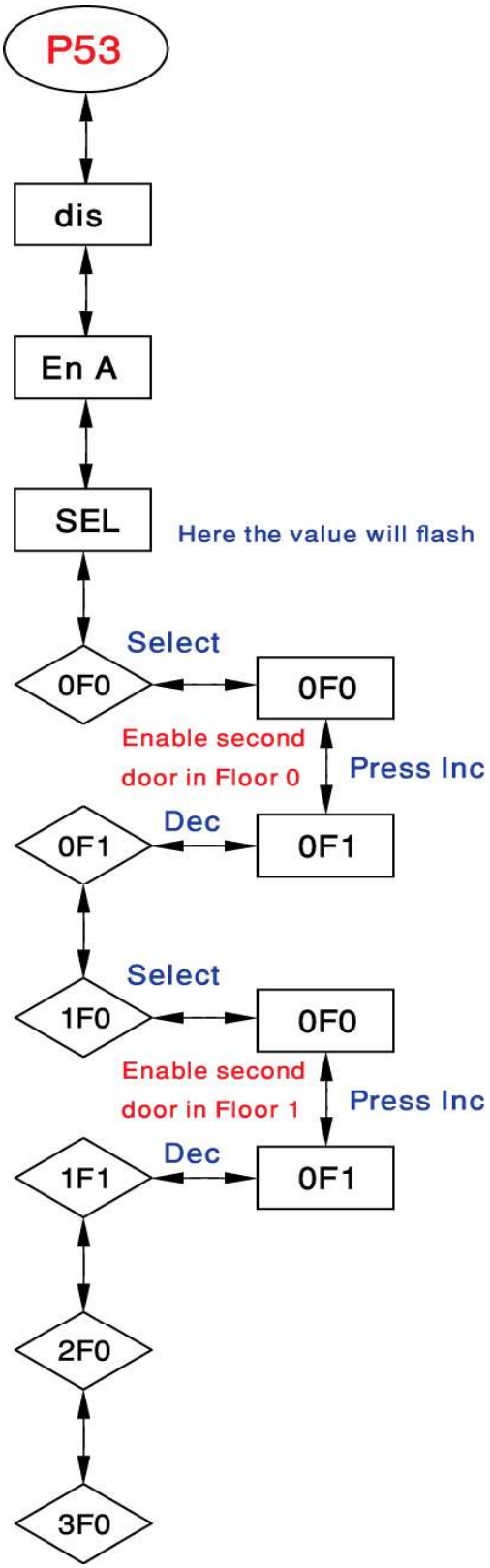
10.4 EC and EO for Double door

2nd door EC input = cabin board SDFS – UP
2nd door EO input = cabin board SDFS – DN

10.5 Inspection Up and Down from panel board:

EC input = Inspection Down
EO input = inspection UP

10.6 P53=SEL (specify which floor has double door) تحديد الطوابق التي لديها بابين



Cabin Board: Inside calls " A " door and " B " door

Ex.: When you activate **0F & 5F** to have double door, the pins **In** & pins **Out** will be

0F	1F	2F	3F	4F	5F	6F	7F	8F	9F
0 InA	1 InA	2 InA	3 InA	4 InA	5 InA	6 InA	7 InA	0 InB	5 InB

0F	1F	2F	3F	4F	5F	6F	7F	8F	9F
0 OutA	1 OutA	2 OutA	3 OutA	4 OutA	5 OutA	6 OutA	7OutA	0 OutB	5 OutB

Note: To select "SEL" and you want to exit, press "DEC"

Close and open Output for the Double Door:

2nd door open output = cabin board slow
2nd door close output = cabin board down

Close delay for door A is Cabin board RSV
Close delay for door B is Cabin board STP

RE open door A is RE Open
RE open door B is cabin board XON

EC and EO for Double door

2nd door EC input = cabin board SDFS – UP
2nd door EO input = cabin board SDFS – DN

Inspection Up and Down from panel board:

EC input = Inspection Down
EO input = inspection UP

11. NOVO Normal LCD:

In main screen LCD will switch between 2 pages

11.1 Inspection mode will display:

1- INS
2- Status of elevator: "TRn" for travel and "STn" for Stop
   n: is the floor number

11.2 Normal mode will display:

1. FLn: Floor number
2. Status of elevator: "TRV" for travel and "STP" for stop

12. NOVO Serial LCD:

12.1 Inspection mode will display :

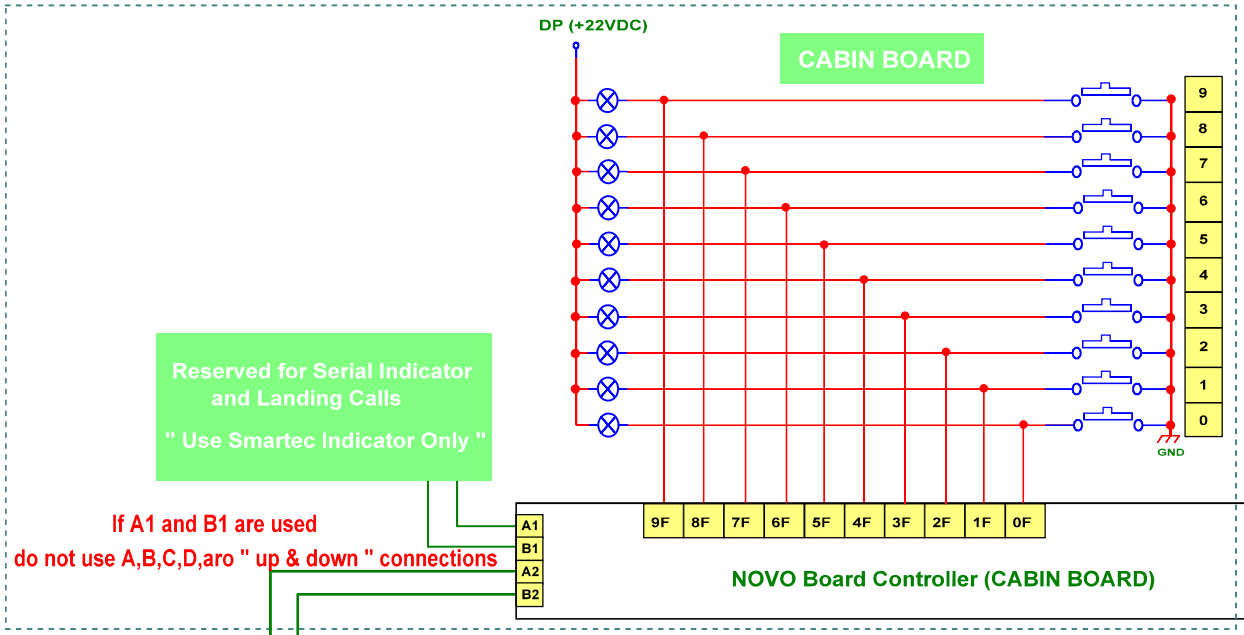
1- INC (C for connecting)
2- Status of elevator: "TRn" for travel and "STn" for Stop
   n: is the floor number

12.2 Normal mode will display:

1. Con (for connecting)
2. Status of elevator: "TRn" for travel and "STn" for stop
   n: is the floor number

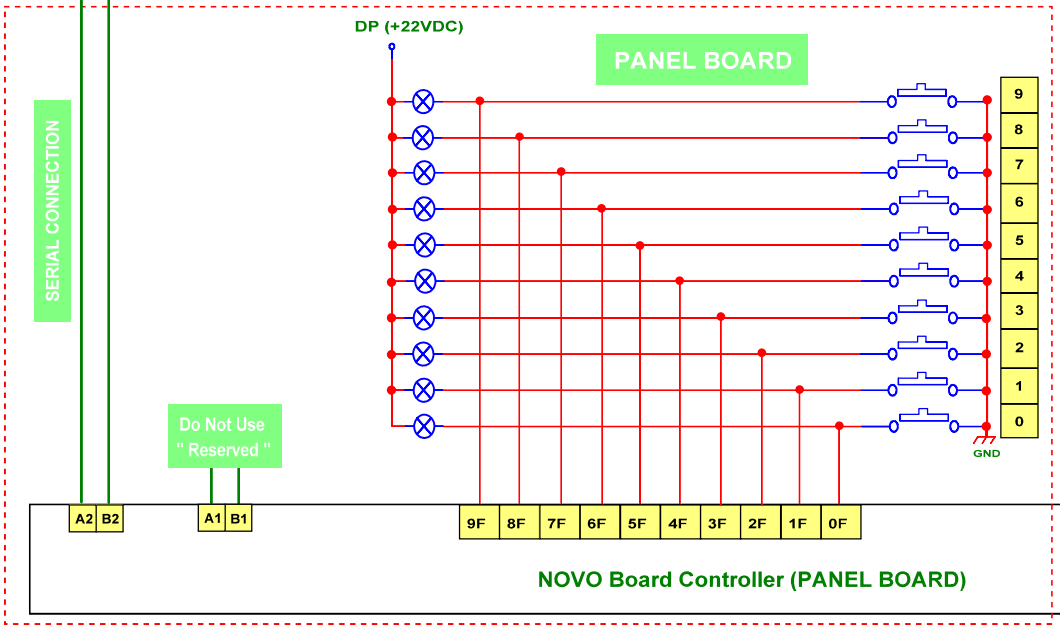
13. WIRINGS

10 STOPS DOWN COLLECTIVE (SERIAL CONNECTION)



Put (P47= 1) for Cabin Board

Wire Count	Flat cable needed for Serial Installation
1	+24 VDC
1	-24 VDC
1	A2 RS485 Serial Communication
1	B2 RS485 Serial Communication
2	For Auto / Manual safety line 60 VDC
Total Wires	6



Put (P47= 2) for Panel Board

Wire Count	Optional Wires
1	Neuter 220VAC, not required if Light 24VDC used
1	Phase 220VAC, not required if Light 24VDC used
2	For Parachute
2	Siren for Emergency
Total Wires	6

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Page Description:

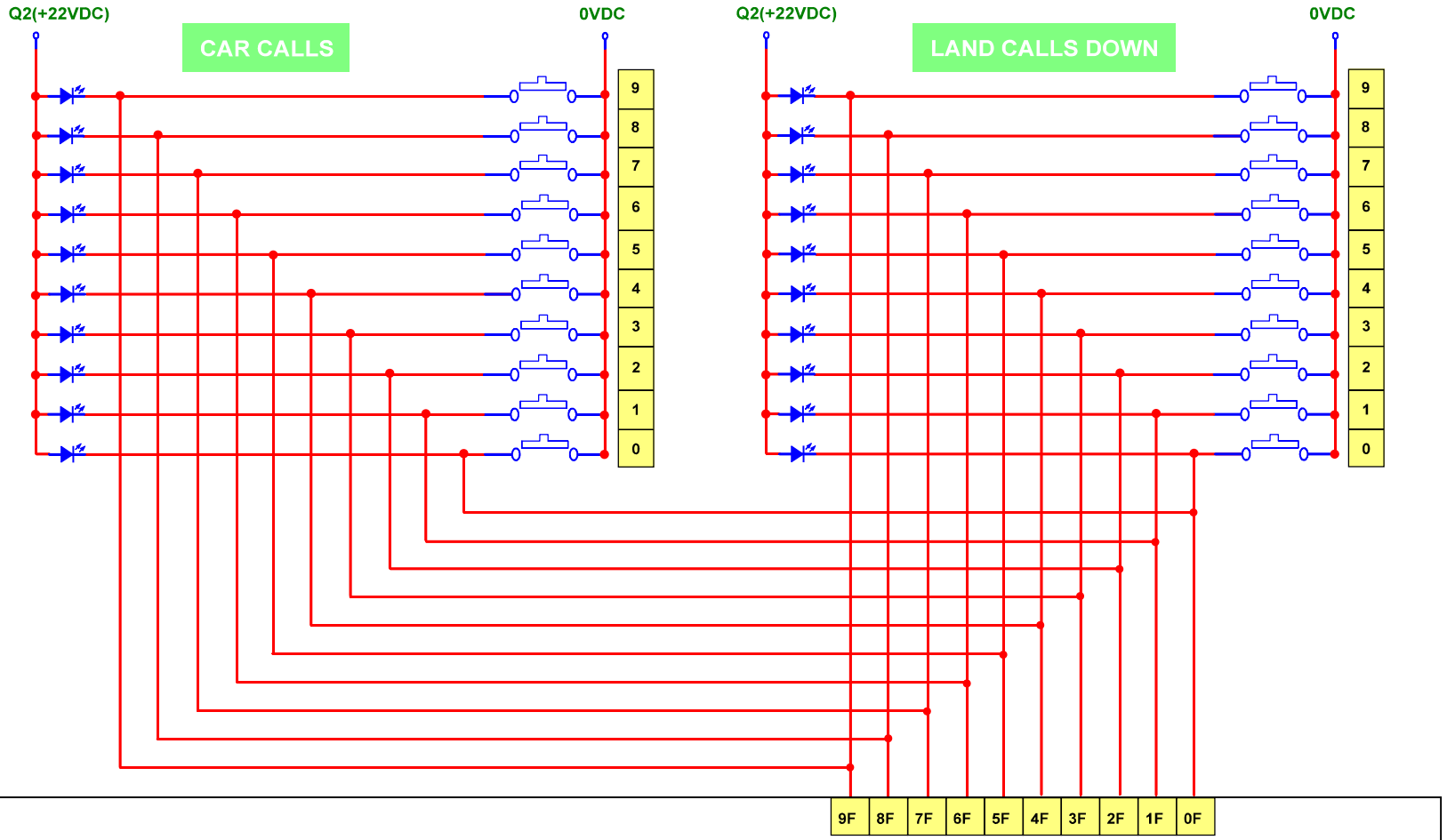
10 STOPS DOWN COLLECTIVE SERIALCONNECTION

Project:

NOVO BOARD CONTROLLER

SIMPLEX MODE: 10 STOPS NOT COLLECTIVE

P24= 64



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Page Description:

Simplex mode

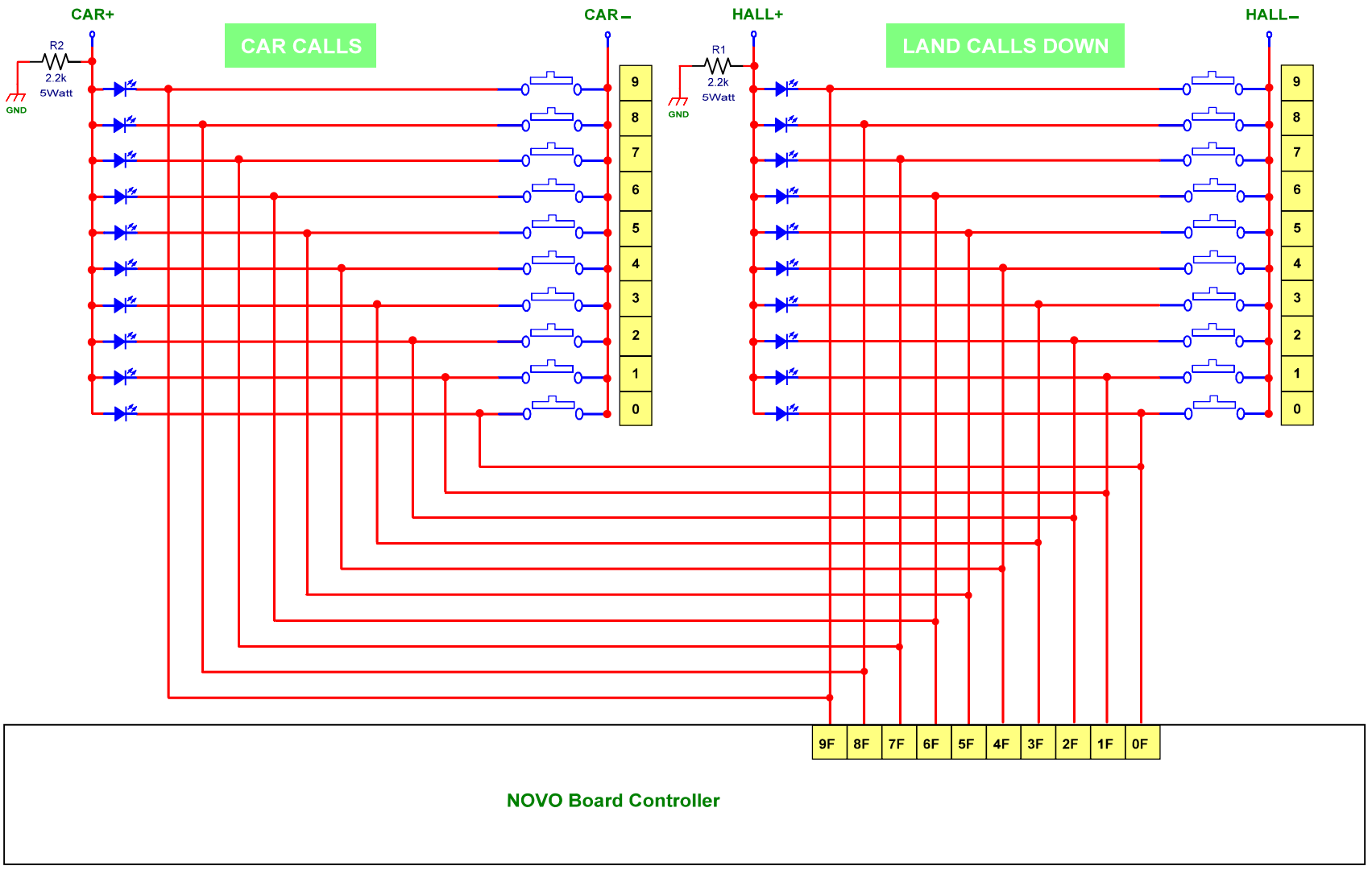
10 STOPS NOT COLLECTIVE

Project:

NOVO BOARD CONTROLLER

SWITCHING MODE: 10 STOPS DOWN COLLECTIVE

P24= 17



Note: 7-Segment Indicator doesn't work in switching mode, only Binary and Gray work

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Page Description:

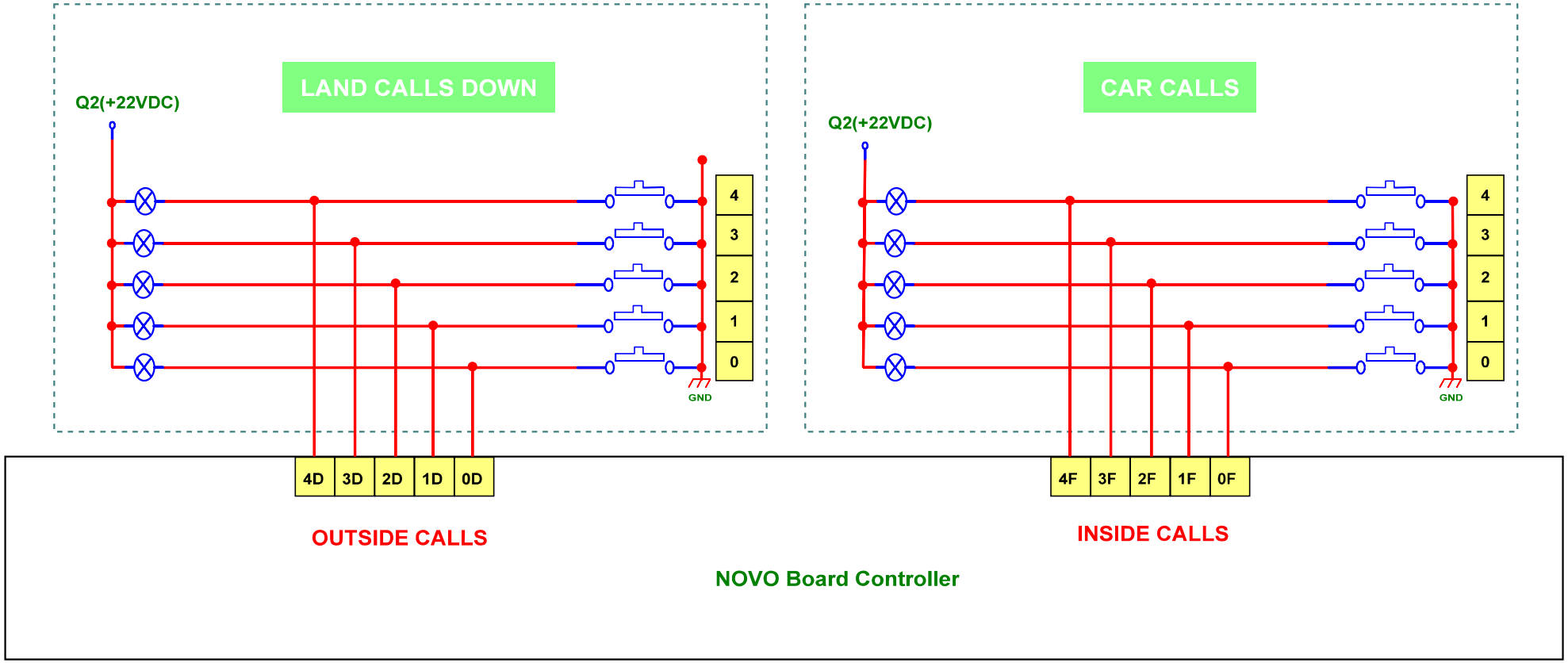
SWITCHING MODE
10 STOPS DOWN COLLECTIVE

Project:

NOVO BOARD CONTROLLER

STANDARD MODE : 5 STOPS DOWN COLLECTIVE

P24= 16



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Page Description:

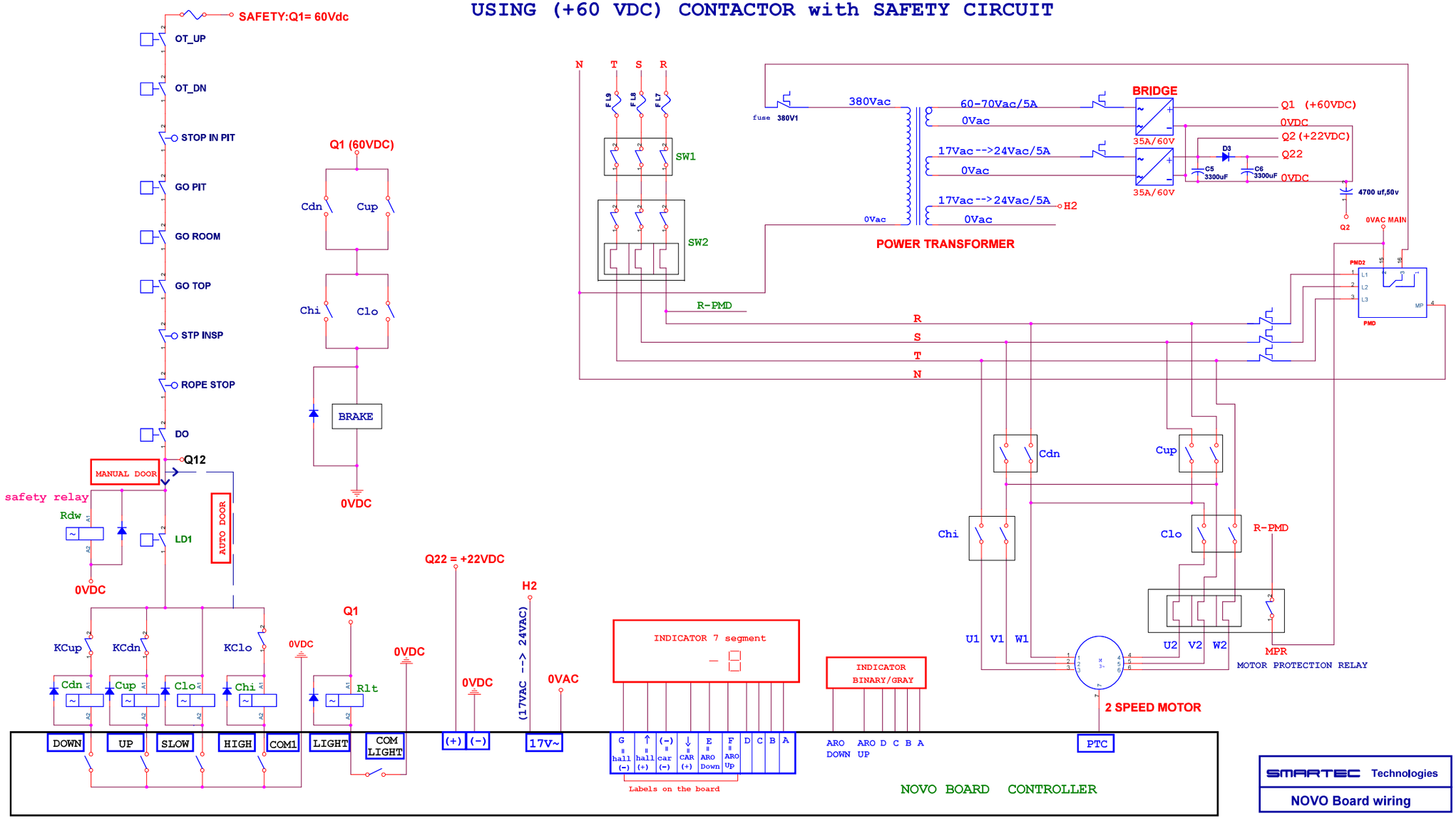
STANDARD MODE

5 STOPS DOWN COLLECTIVE

Project:

NOVO BOARD CONTROLLER

USING (+60 VDC) CONTACTOR with SAFETY CIRCUIT



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NOVO Board wiring

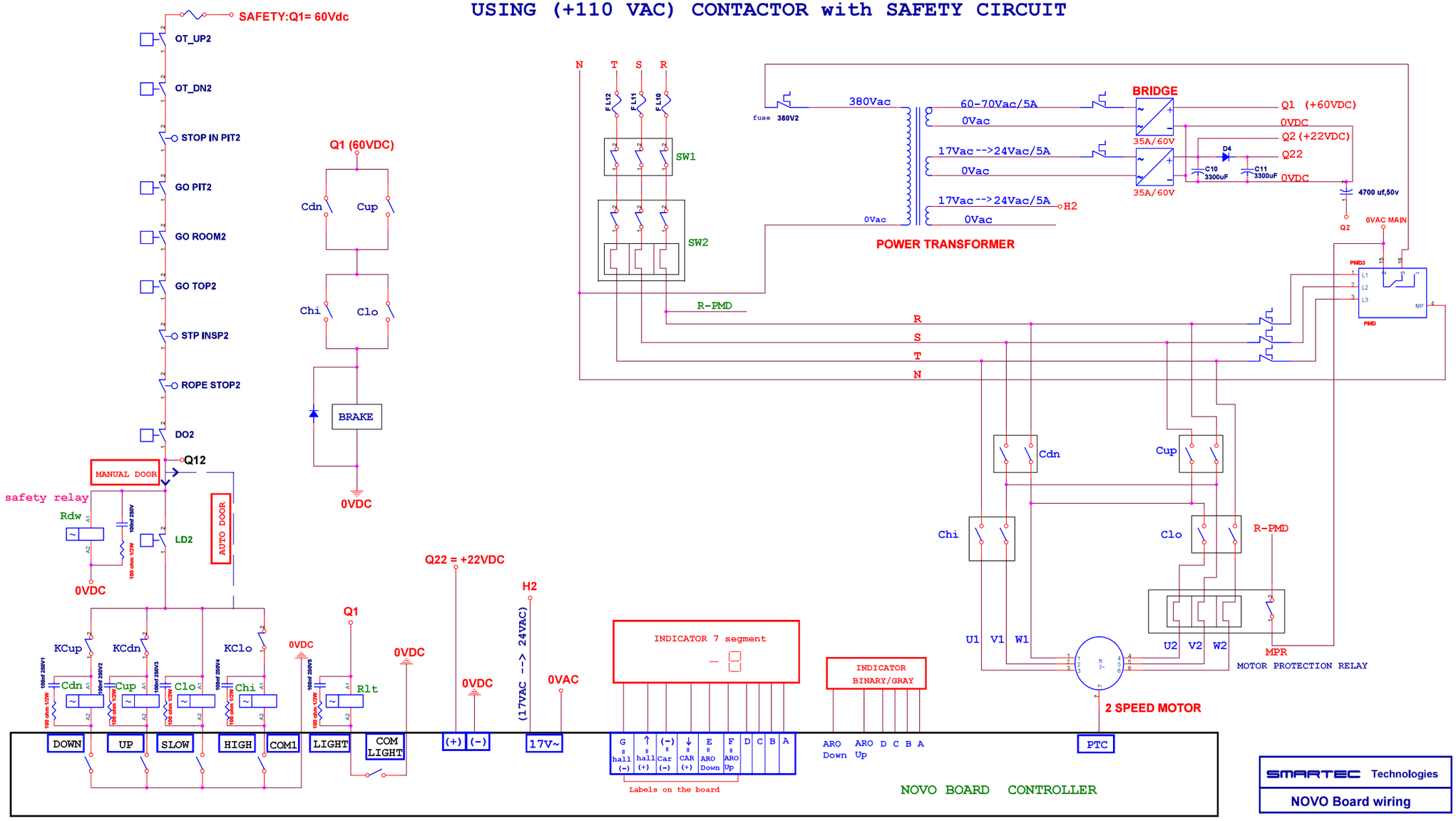
OT-UP: Over travel up mechanical limit switch
OT-DN: Over travel down mechanical limit switch
GO PIT: Overspeed governor pit
GO ROOM: Overspeed governor machine room
GO TOP: Overspeed governor top of cabine
STP INSP: Stop inspection top of cabine

DO : Door contact mechanical switch
LD : Door lock contact
Rdw: Door contact relay
KClo: Auxiliary switch for low speed contactor,should be N.C
KCdn: Auxiliary switch for down direction contactor,should be N.C
KCup: Auxiliary switch for up direction contactor,should be N.C

Cdn: Down direction contactor
Cup: Up direction contactor
CLo: Slow speed relay
Chi: High speed relay
Rlt: Light relay
MPR: Motor protection relay

PMD: Phase balance and phase sequence monitoring device
PTC: Connected to the PTC input in the HAPPY board
SW1: Main circuit breaker
SW2: Thermo-magnetic circuit breaker in control panel

USING (+110 VAC) CONTACTOR with SAFETY CIRCUIT



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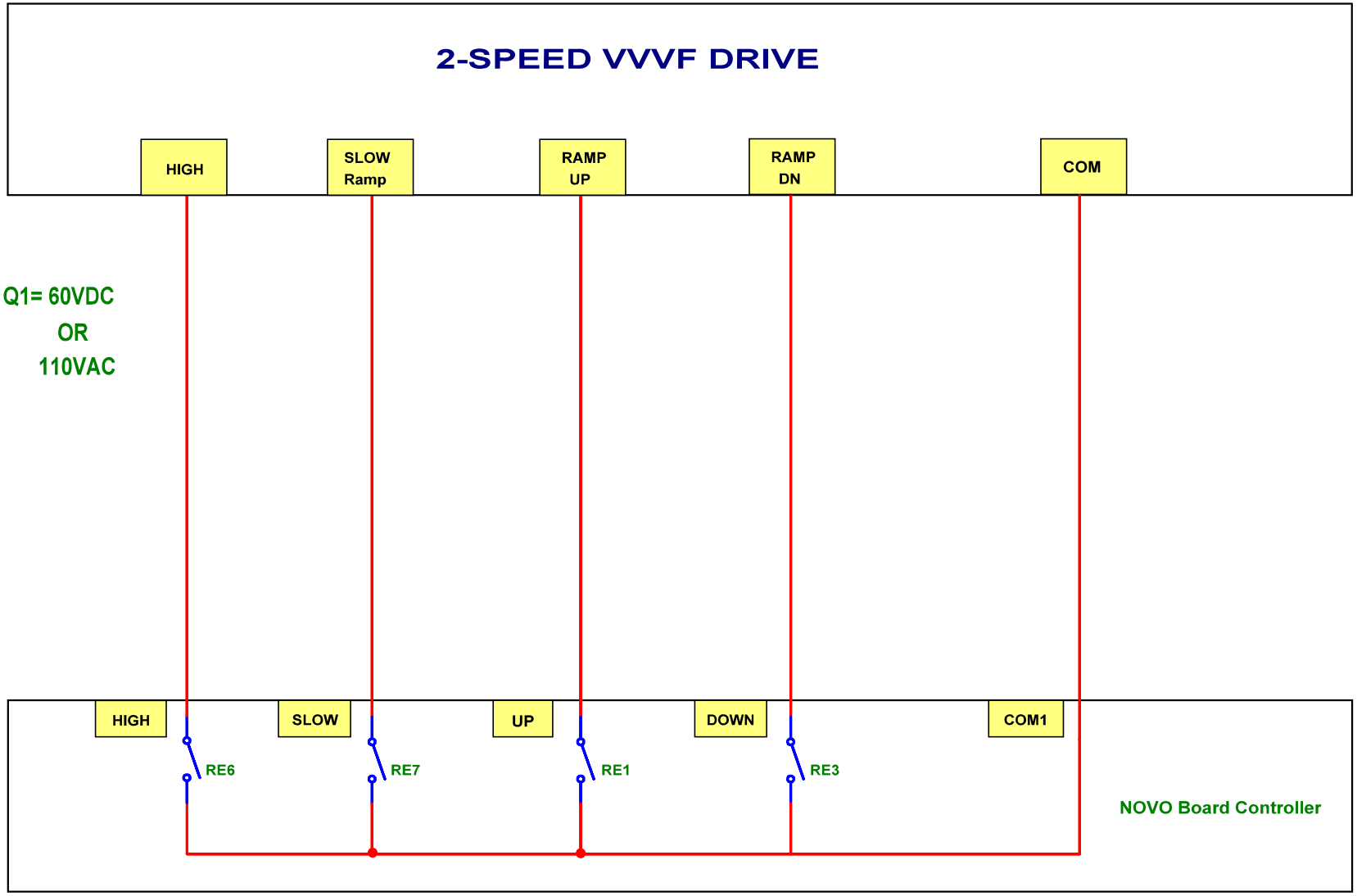
NOVO Board wiring

OT-UP: Over travel up mechanical limit switch
OT-DN: Over travel down mechanical limit switch
GO PIT: Overspeed governor pit
GO ROOM: Overspeed governor machine room
GO TOP: Overspeed governor top of cabine
STP INSP: Stop inspection top of cabine

DO : Door contact mechanical switch
LD : Door lock contact
Rdw: Door contact relay
KClo: Auxiliary switch for low speed contactor,should be N.C
KCdn: Auxiliary switch for down direction contactor,should be N.C
KCup: Auxiliary switch for up direction contactor,should be N.C

Cdn: Down direction contactor
Cup: Up direction contactor
CLo: Slow speed relay
Chi: High speed relay
Rlt: Light relay
MPR: Motor protection relay

PMD: Phase balance and phase sequence monitoring device
PTC: Connected to the PTC input in the HAPPY board
SW1: Main circuit breaker
SW2: Thermo-magnetic circuit breaker in control panel



(*): Do not install diodes with contactors if S1 was 110 VAC

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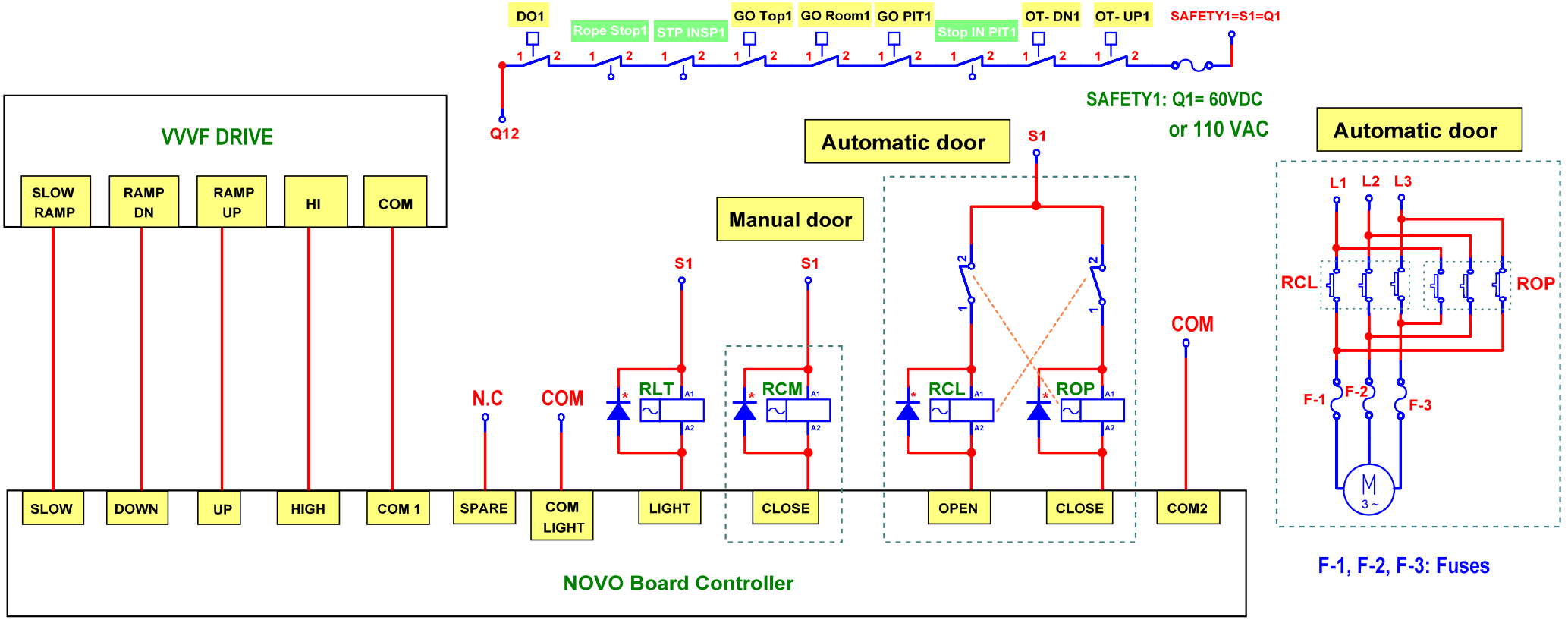
Page Description:

2-SPEED VVVF DRIVE

Project:

NOVO CONTROLLER

AUTOMATIC / MANUAL DOOR VVVF



(*): Do not install diodes with contactors if S1 was 110 VAC

DO1 : Door Contact Mechanical Switch	RLT : Light Relay
STP INSP1: Stop Inspection Top of Cabine	RCM : Cam Relay for Swinging Door
Go TOP1 : Over Speed Governor Top of Cabine	RCL : Close Door Relay
GO ROOM1: Over Speed Governor Machine Room	ROP : Open Door Relay
GO PIT1 : Over Speed Governor PIT	COM1: Commun for Relay(Slow,high,UP,Down & Spare) is connected to 0VDC or 0VAC depending on what you choose (110VAC or 60VDC)
OT-DN1 : Over Travel Down Mechanical Limit Switch	COM2: common for relay (open & close) is connected to 0VDC or 0VAC
OT-UP1 : Over Travel Up Mechanical Limit Switch	COM LIGHT: Common for relay car light is connected to 0VAC or 0VDC

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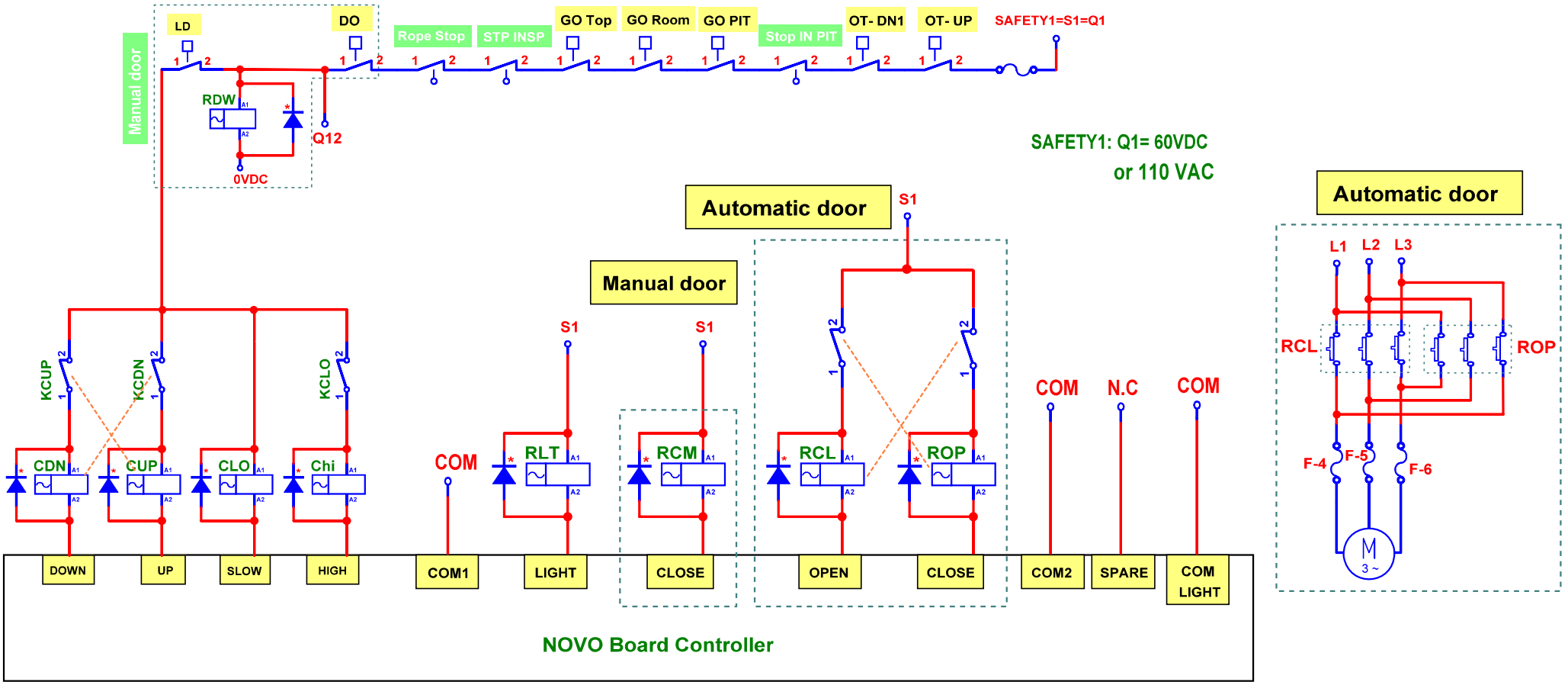
Page Description:

AUTOMATIC / MANUAL DOOR VVVF

Project:

NOVO BOARD CONTROLLER

AUTOMATIC / MANUAL DOOR AC2



(*): Do not install diodes with contactors if Q1 was 110 VAC

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Page Description:

AUTOMATIC / MANUAL DOOR AC2

Project:

NOVO BOARD CONTROLLER

Description of Components of " MANUAL / AUTOMATIC DOOR AC2 " Diagram

LD : Lock Door Contact	CUP : Up Direction Contactor
DO : Door Contact Mechanical Switch	CLO : Slow Speed Relay
STP INSP: Stop Inspection Top of Cabine	CHi : High Speed Relay
GO TOP: Overspeed Governor Top of Cabine	RLT : Light Relay
GO ROOM: Overspeed Governor Machine Room	RCM : Cam Relay For Swinging Door
GO PIT: Overspeed Governor Pit	RCL : Close Door Relay
OT-DN : Over Travel Down Mechanical Limit Switch	ROP : Open Door Relay
OT-UP : Over Travel UP Mechanical Limit Switch	COM1: Common for Relay(UP,Down,Slow ,High & Spare) is connected to 0VAC or 0VDC
Rdw :Door Contact Relay	COM2: Common for Relay(Close & Open) is connected to 0VAC or 0VDC depending on the chosen (110VAC or 60VDC)
KCUP : Auxiliary Switch for Up Direction Contactor , should be not connected	
KCDN : Auxiliary Switch for down Direction Contactor , should be not connected	COM LIGHT: Common for Relay Car Light is connected to 0VAc or 0VDC
KCLO : Auxiliary Switch for Low Speed Contactor , should be not connected	
CDN : Down Direction Contactor	F-4, F-5, F-6 : Fuses

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Page Description:

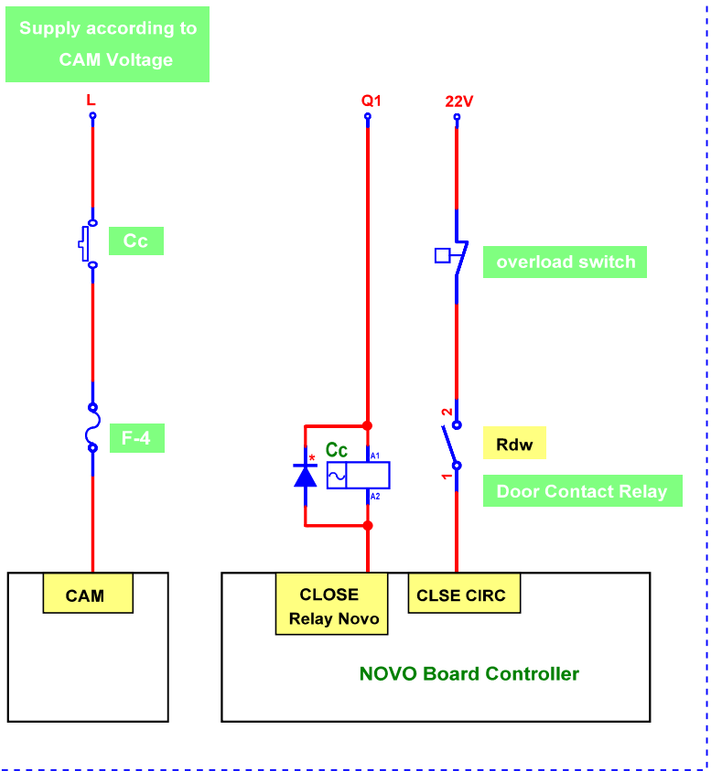
Description of Components of " MANUAL / AUTOMATIC DOOR AC2 " Diagram

Project:

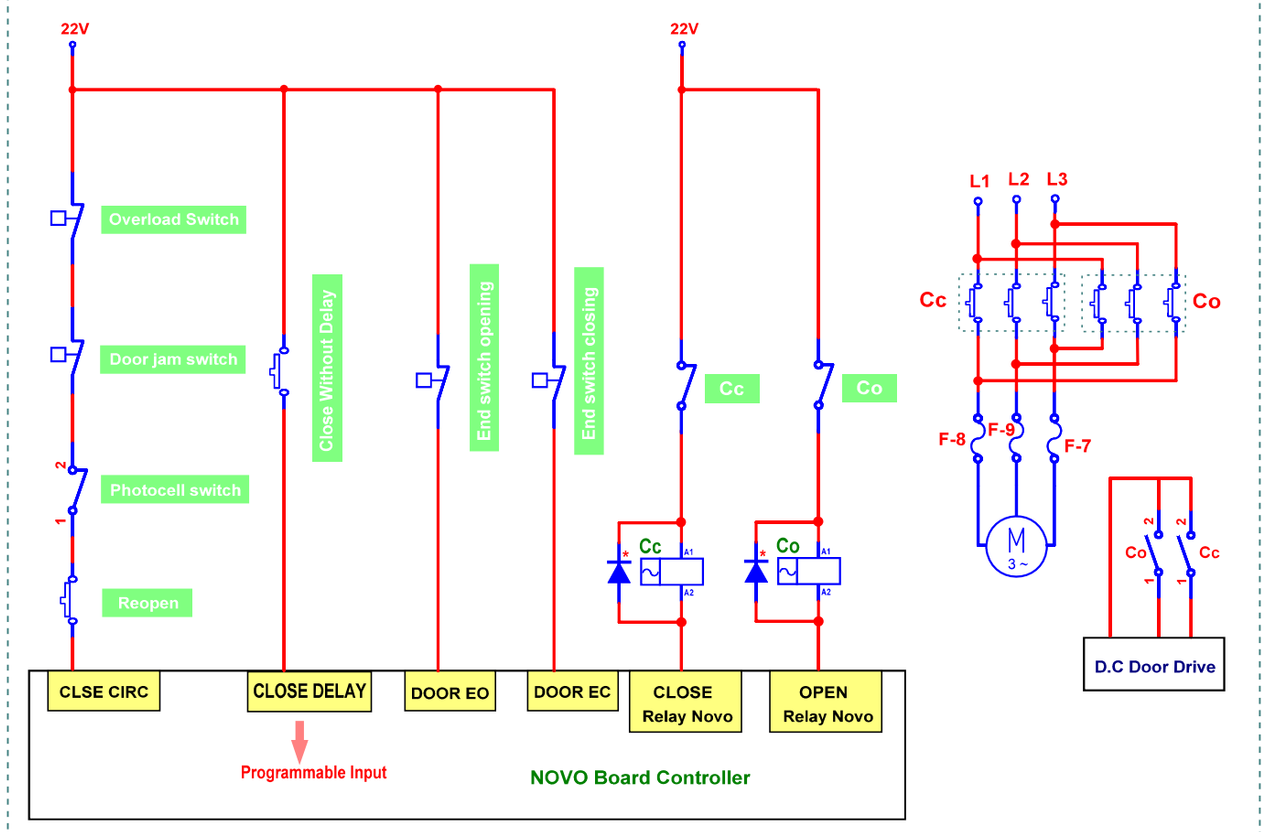
NOVO BOARD COTROLLER

TYPE OF DOOR

Swinging Door



Automatic door



Rdw: Door Contact Relay

Cc: Close Contactor

Co: Open Contactor

(*): Do not install diodes with contactors if Q1 was 110 VAC

If 110 is applied, put instead of diode a resistor 100 ohm 1/2 Watt and a capacitor 100 nf / 250V

CLOSE DELAY: It is programmable input

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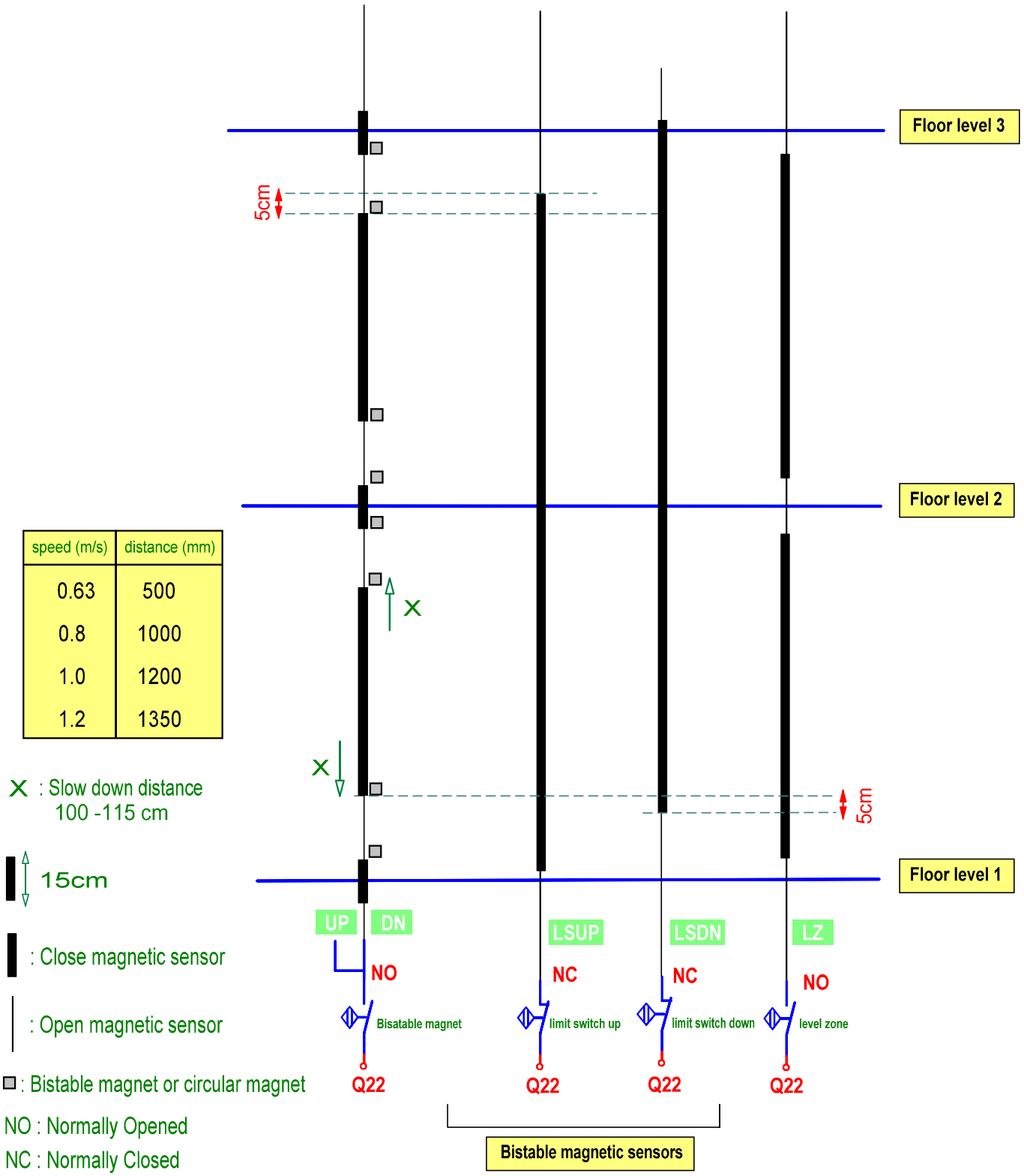
Page Description: TYPE OF DOOR

Project: NOVO CONTROLLER

MAGNETIC SENSORS' DISPOSITION
For Bistable Floor Count



speed (m/s)	distance (mm)
0.63	500
0.8	1000
1.0	1200
1.2	1350

X : Slow down distance
100 -115 cm

15cm

: Close magnetic sensor

: Open magnetic sensor

: Bistable magnet or circular magnet

NO : Normally Opened

NC : Normally Closed

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Page Description:

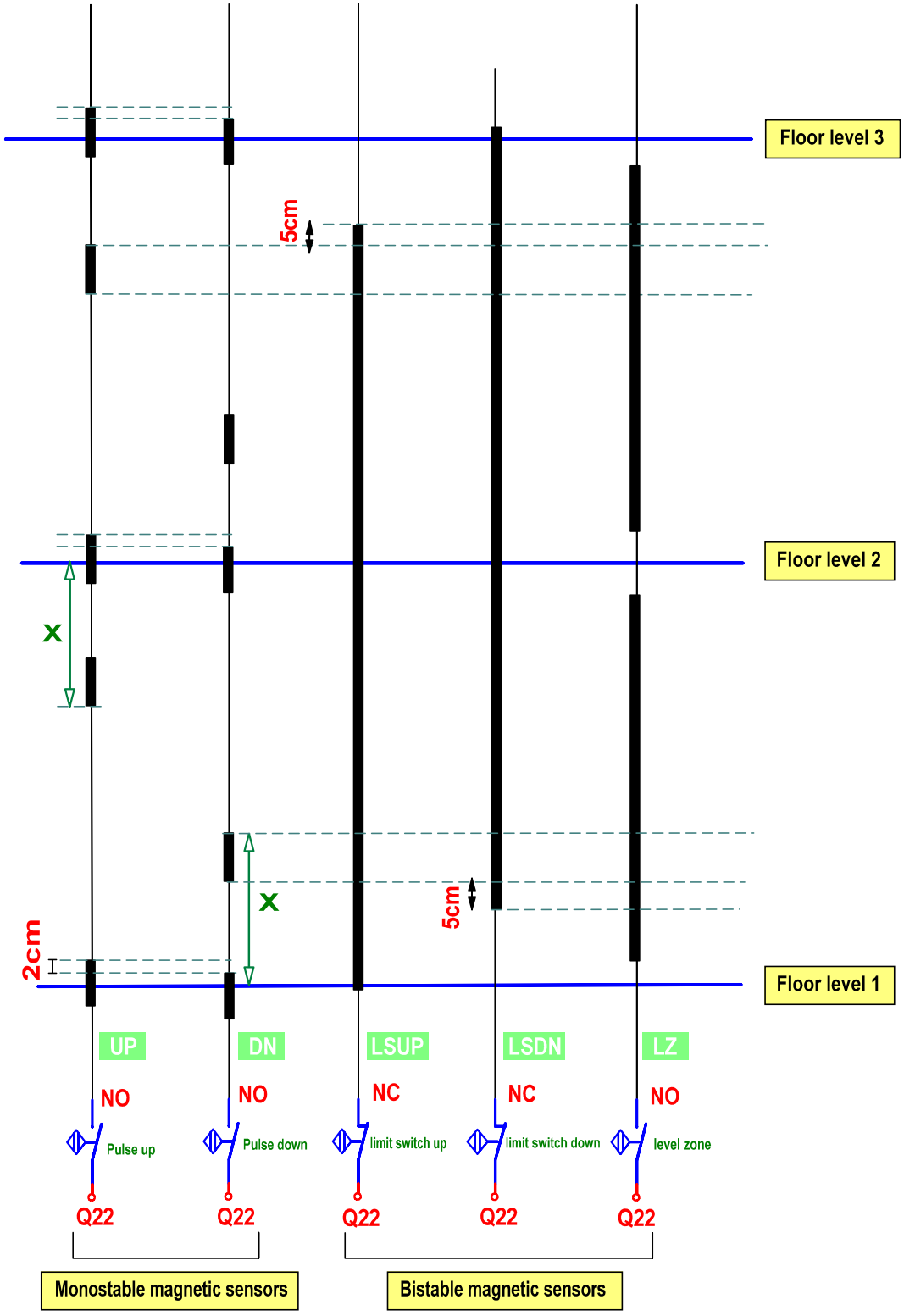
MAGNETIC SENSORS' DISPOSITION
For Bistable Floor Count

Project:

NOVO BOARD CONTROLLER

MAGNETIC SENSORS' DISPOSITION

For Monostable Floor Count



speed (m/s)	distance (mm)
0.63	500
0.8	1000
1.0	1200
1.2	1350

X : Slow down distance
100 -115 cm

15cm

: Close magnetic sensor

: Open magnetic sensor

NO : Normally Opened

NC : Normally Closed

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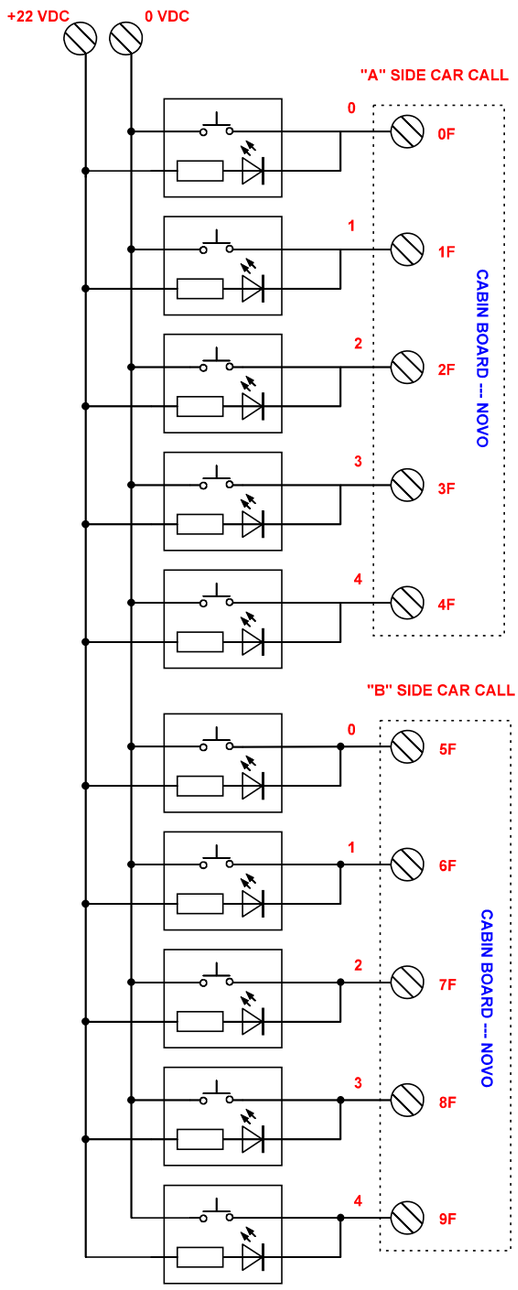
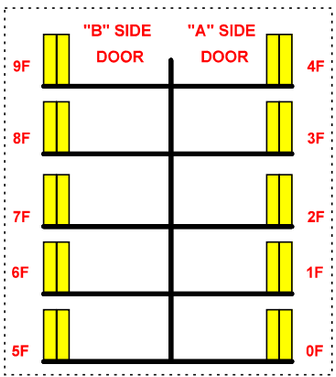
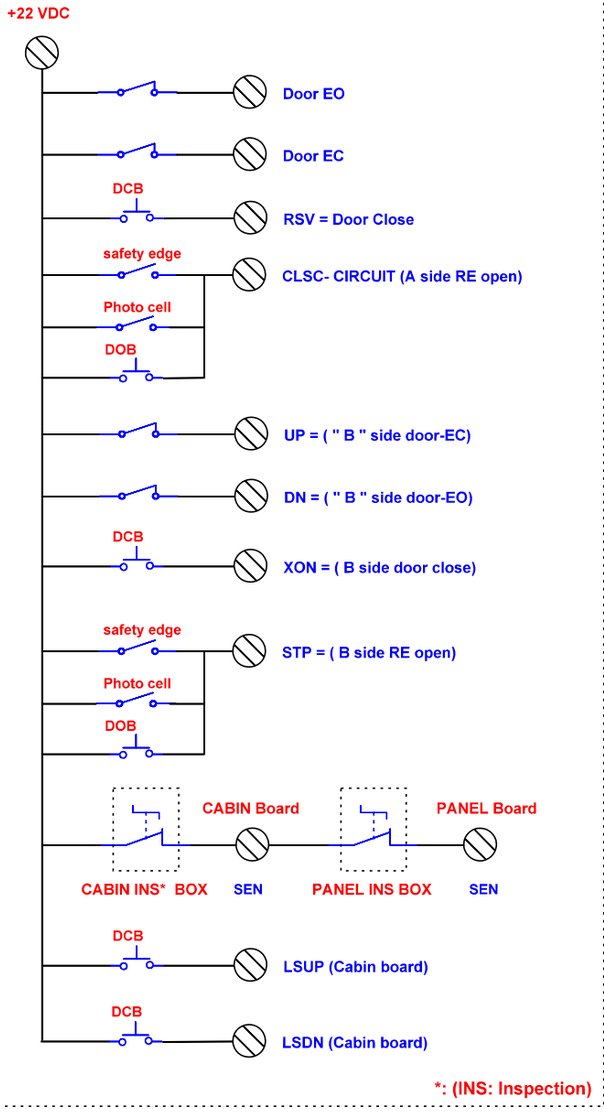
Dual Door (Cabin Board)

NOVO SERIAL-CALL CONNECTIONS FOR Dual DOOR



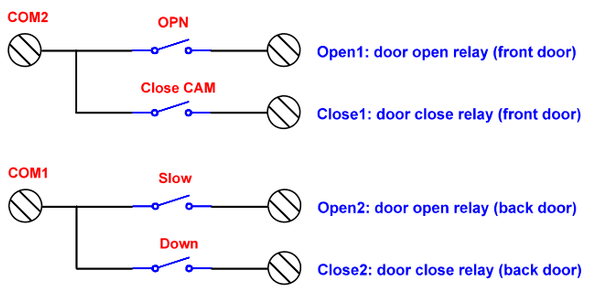


NOVO SERIAL CABIN BOARD ONLY FOR DUAL DOOR



*: (INS: Inspection)

NOVO SERIAL CABIN BOARD - DOOR OPEN & CLOSE



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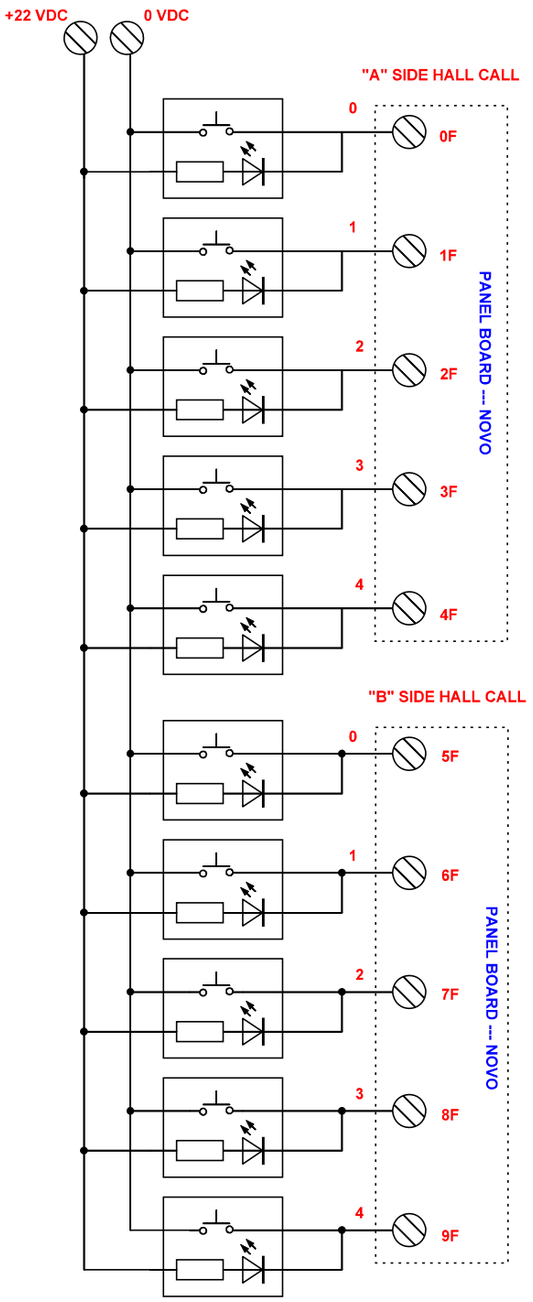
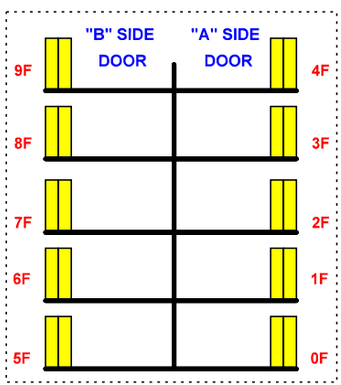
Page Description: Dual Door (Cabin Board)

Project: NOVO BOARD CONTROLLER

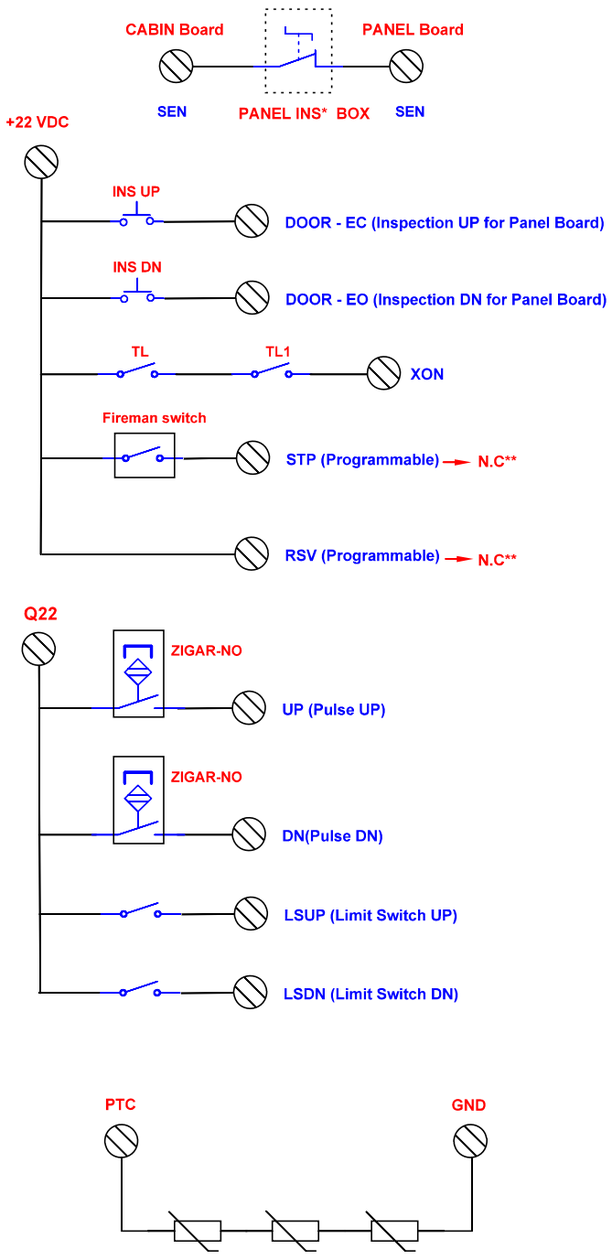
Dual Door (Panel Board)

NOVO SERIAL-CALL CONNECTIONS FOR Dual DOOR





NOVO SERIAL PANEL BOARD ONLY FOR DUAL DOOR



*: (INS: Inspection)

** N.C: not connected

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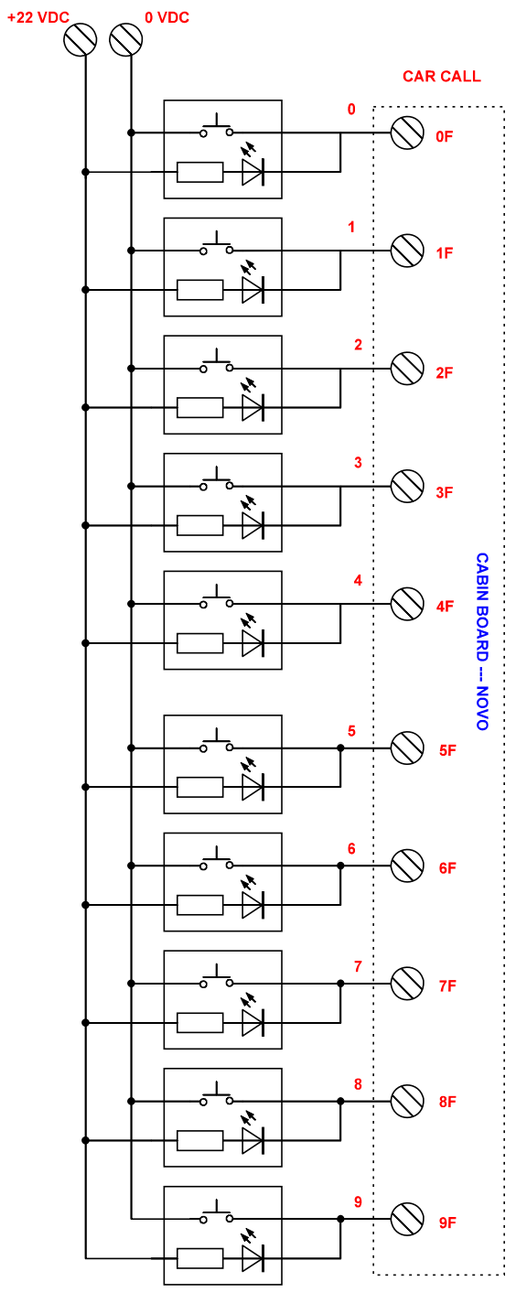
Page Description:	Project:
Dual Door (Panel Board)	NOVO BOARD CONTROLLER

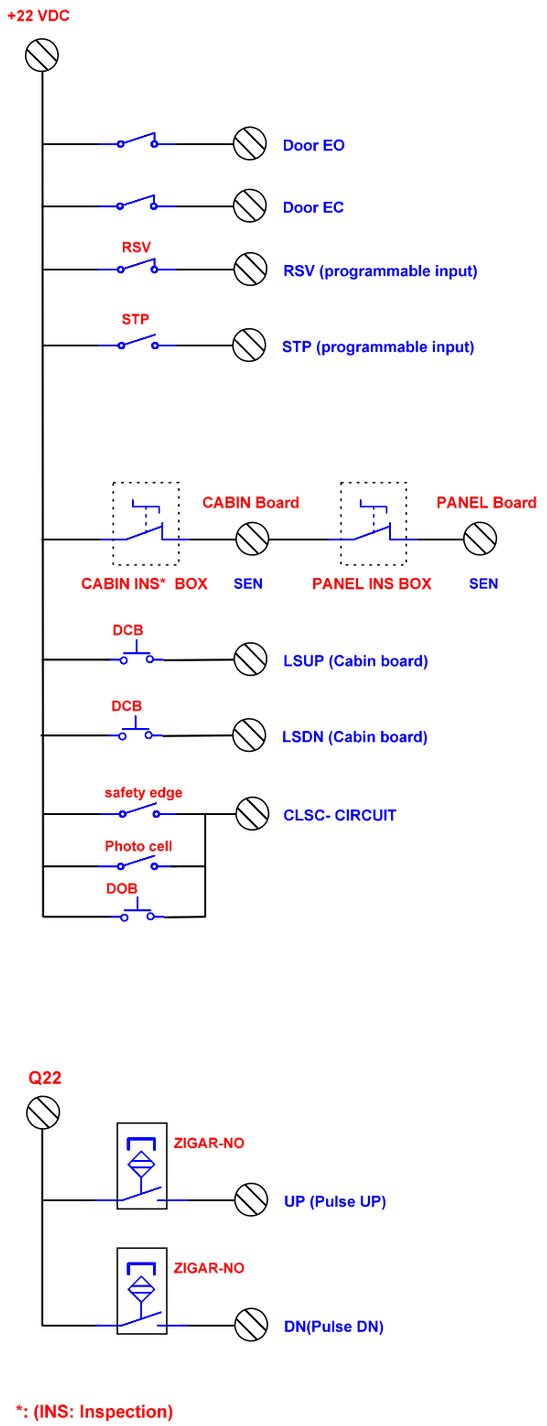
Serial Communication (Cabin Board)

P47 = 1

NOVO SERIAL-CALL CONNECTIONS



NOVO SERIAL CABIN BOARD



*: (INS: Inspection)

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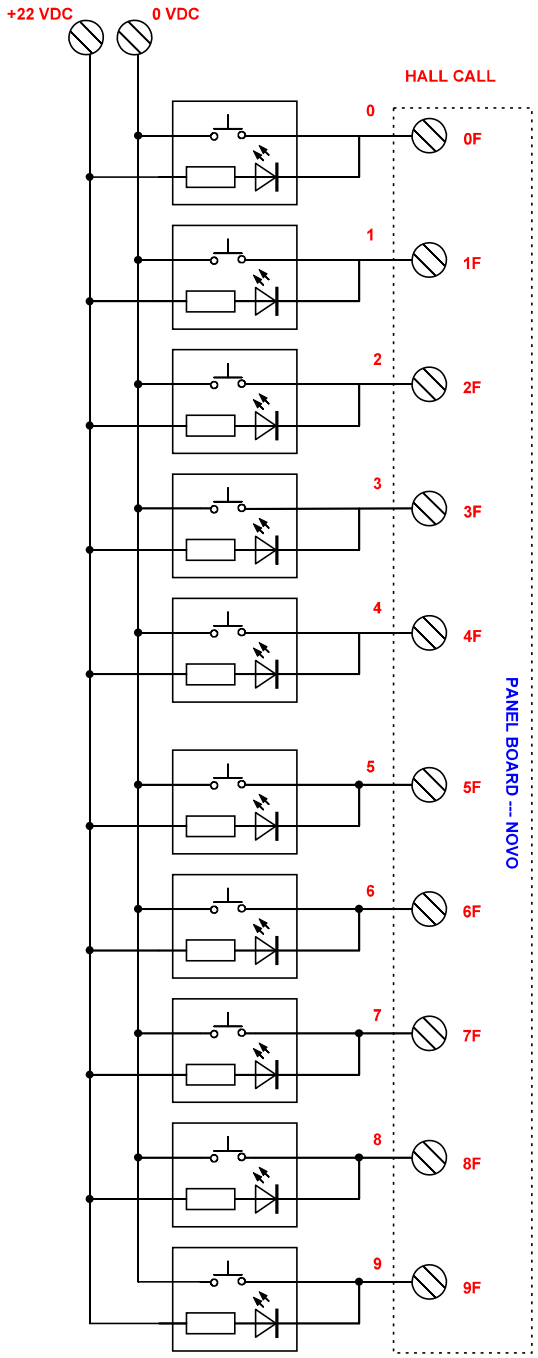
Page Description:	Project:
Serial Communication (Cabin Board)	NOVO BOARD CONTROLLER

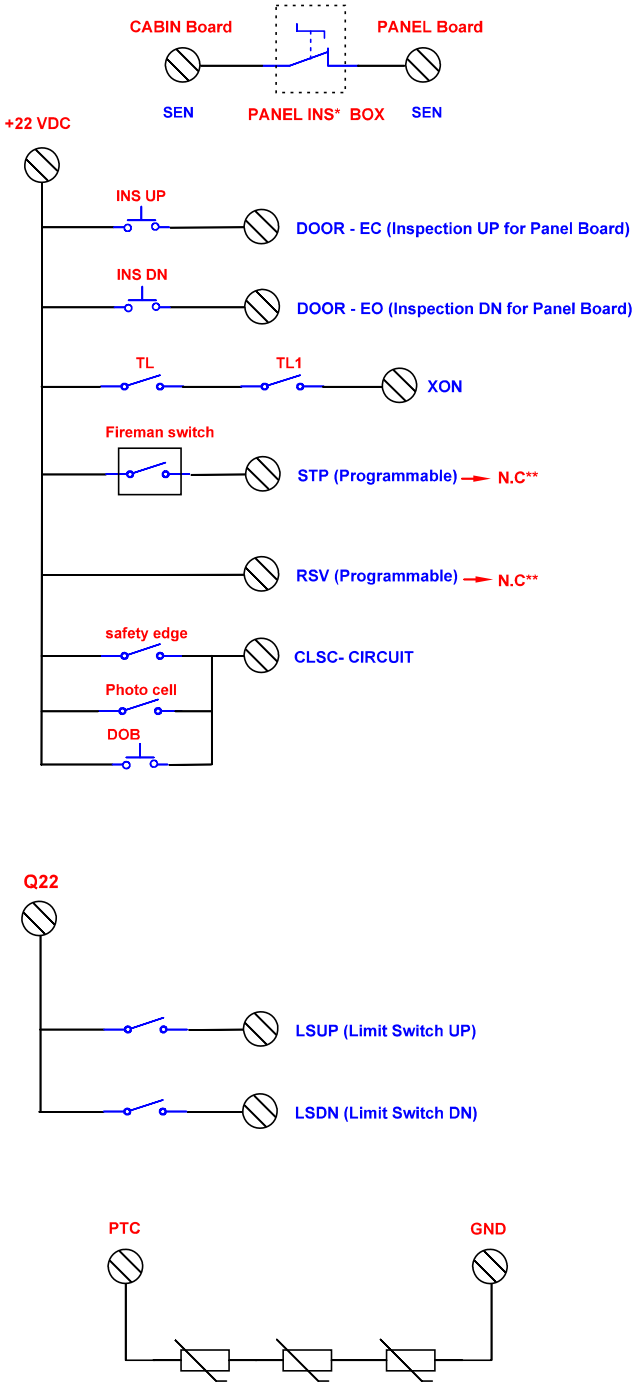
Serial Communication (Panel Board)

P47 = 2

NOVO SERIAL-CALL CONNECTIONS



NOVO SERIAL PANEL BOARD



*: (INS: Inspection)

** N.C: not connected

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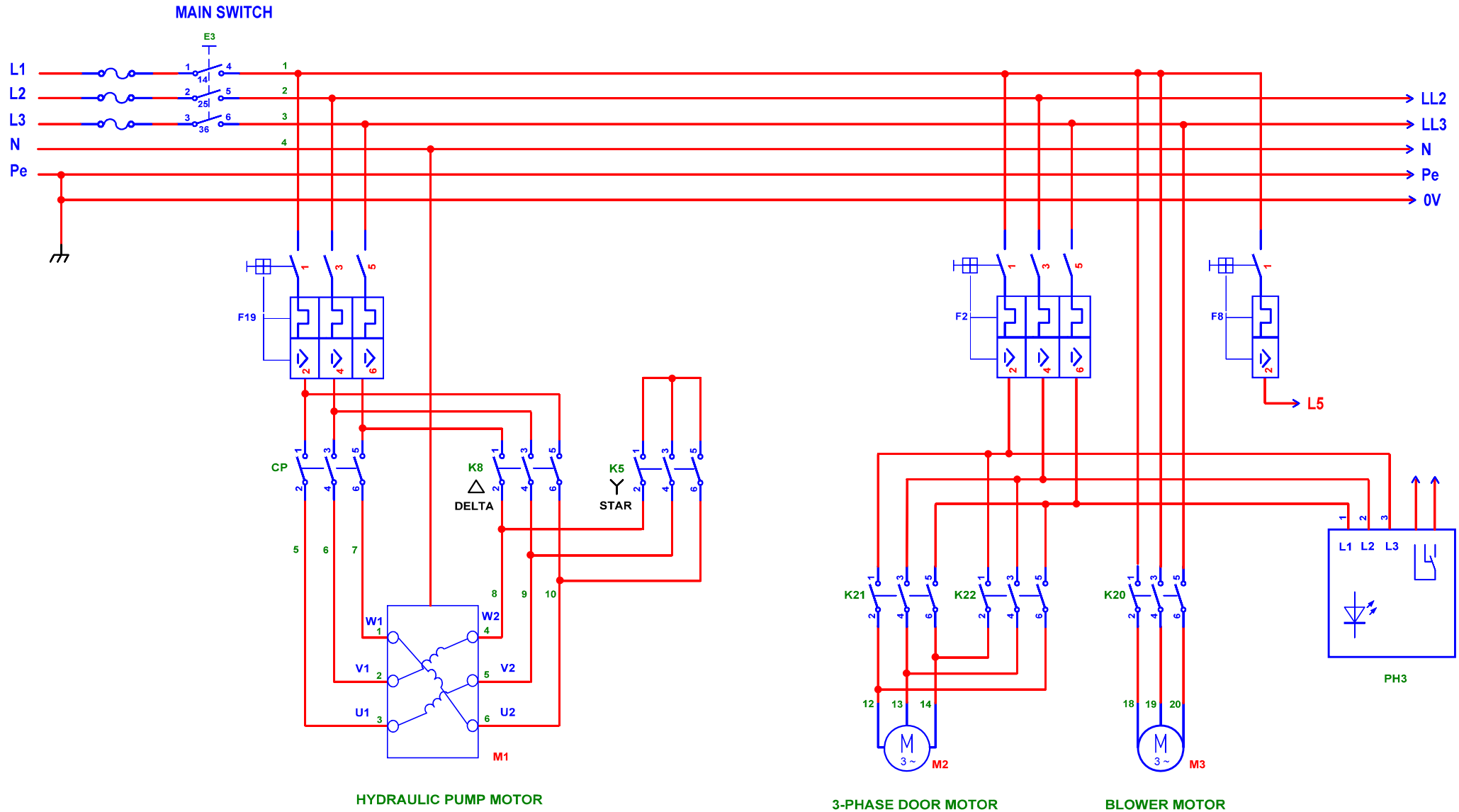
Page Description: Serial Communication (Panel Board)

Project: NOVO BOARD CONTROLLER



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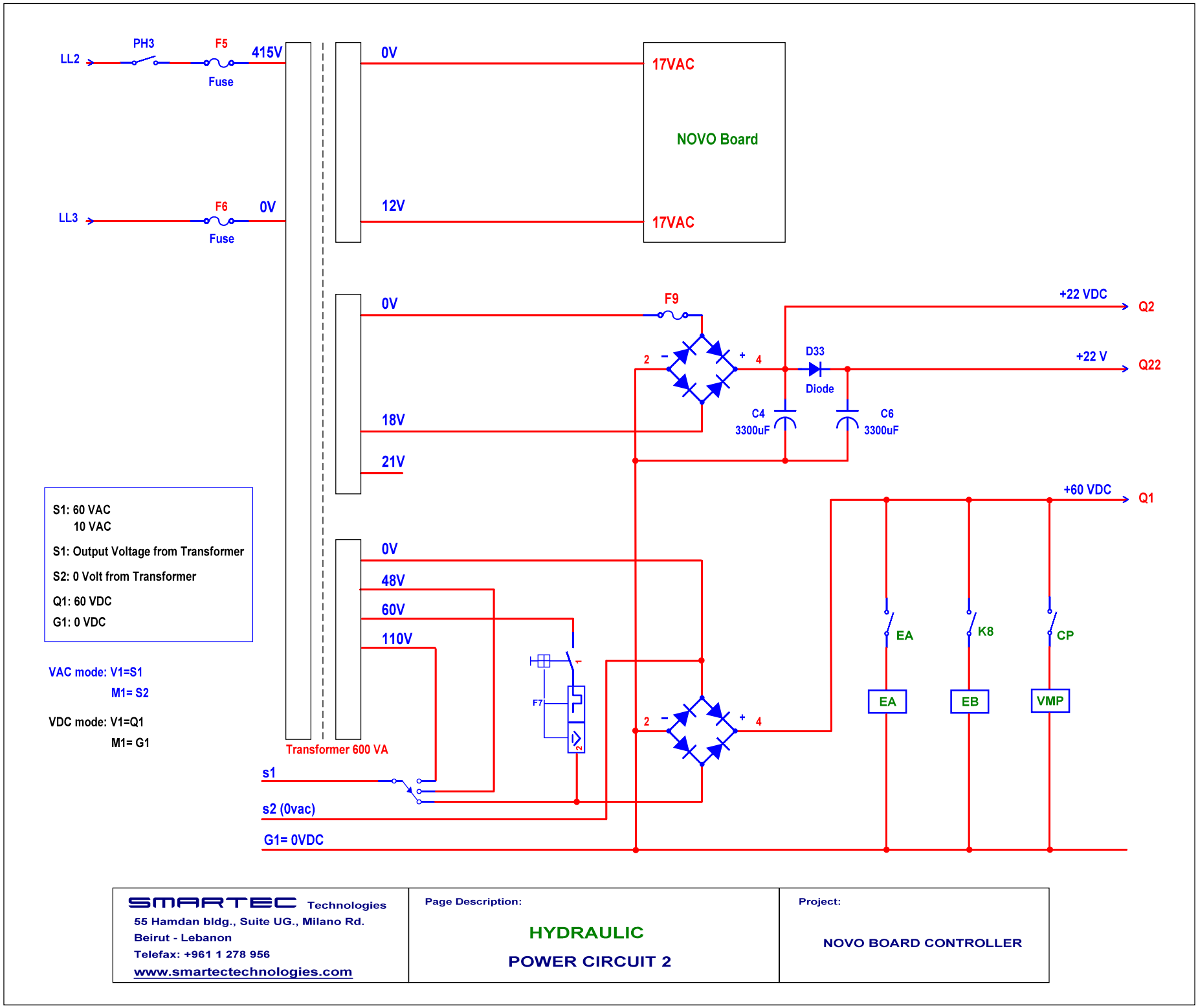
Page Description:

HYDRAULIC

POWER CIRCUIT 1

Project:

NOVO BOARD CONTROLLER



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Page Description:

HYDRAULIC

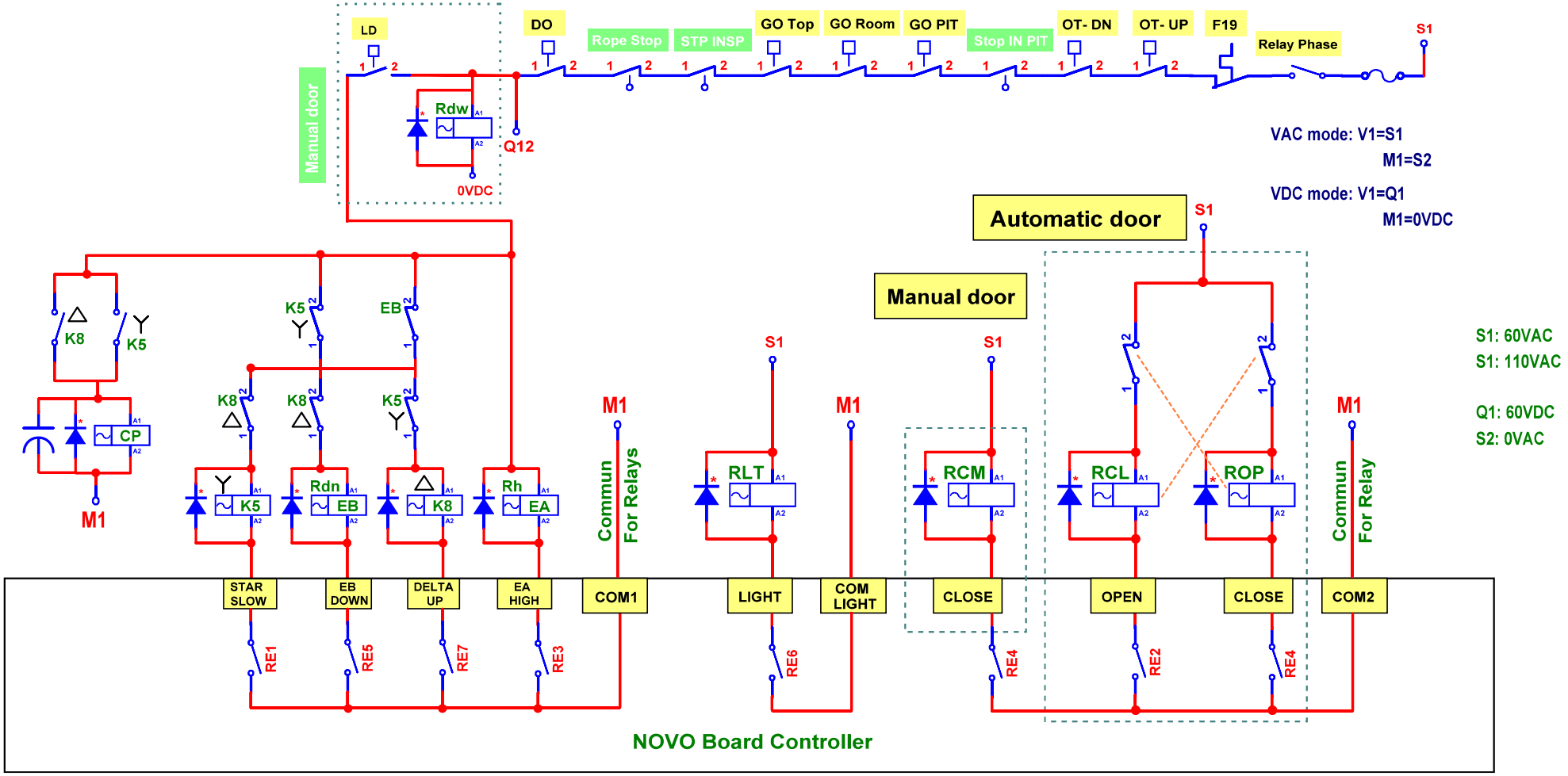
POWER CIRCUIT 2

Project:

NOVO BOARD CONTROLLER

HYDRAULIC

AUTOMATIC / MANUAL DOOR



(*): Do not install diodes with contactors if S1 is AC Voltage

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Page Description:

HYDRAULIC

AUTOMATIC / MANUAL DOOR

Project:

NOVO BOARD CONTROLLER

Explanation of Components of " HYDRAULIC (AUTOMATIC/MANUAL DOOR) " Diagram

LD : Lock Door Contact	EB =VMD: Down solenoid valve
DO : Door Contact Mechanical Switch	Rh: High direction relay
STP INSP: Stop Inspection Top of Cabine	EA = VML: Magnetic leveling valve
GO TOP: Overspeed Governor Top of Cabine	RLT : Light Relay
GO ROOM: Overspeed Governor Machine Room	RCM : Cam Relay For Swinging Door
GO PIT: Overspeed Governor Pit	RCL : Close Door Relay
OT-DN : Over Travel Down Mechanical Limit Switch	ROP : Open Door Relay
OT-UP : Over Travel UP Mechanical Limit Switch	COM1: Common for Relays(UP,Down,Slow ,High) is connected to 0V (M1)
Rdw :Door Contact Relay	COM2: Common for Relays (Close & Open) is connected to 0V (M1)
CP: Pump main contactor	COM LIGHT: Common for Relay (Light) is connected to 0V (M1)
Rdn: Down direction Relay	

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Page Description:

Explanation of Components of HYDRAULIC AUTOMATIC/MANUAL DOOR " Diagram

Project:

NOVO BOARD COTROLLER