M1 APPLICATION NOTE

Access Control
Interfacing to MCP-040 4 Door Access Controller.

Ness Intel. Systems

The M1 can interface to the MCP-040 Access controller, so the following features can be implemented.

1. Arm and Disarm the M1 Areas (up to 4 M1 Areas can be controlled) by the Access Control Card Readers. (1 card presentation by an authorized card will Disarm the Area and 3 Card presentations (during the door unlock period) will Arm the Area.
2. Arm and Disarm the Access Control Areas (up to 4 Areas) by the M1 so access can be denied to users, who do not have Security rights to disarm the Security System when the Security Area is armed.
3. Unlock a door (e.g. front door to a business) when the security area is disarmed.

This application note will address how to program both the Access Control System and M1 to they work seemingly together.

The MCP-040 Access Controller has 4 Areas of its own. These can be armed / disarmed by both a Card Reader and / or Zone input connected to an output from the M1.
When each area is armed / disarmed an output can be activated and connected to a M1 Zone (Programmed as a 'non alarm' input) to Arm / Disarm the M1 and the same output can also be wired to the readers LED control wire to provide feedback to the customer to advise them of the Status of the Area.

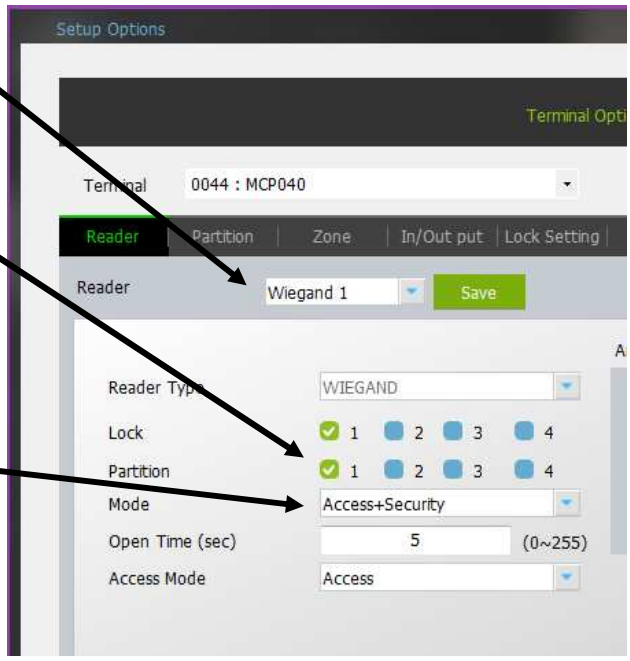
Therefore Arming and disarming the Security System Area by either the Access Control Card Reader, or M1 Keypad the system will stay in Sync for the user to easily be able to see the status.

Programming the MCP-040

Card Reader.
You must first select the Card Reader(s) that will be used to arm / disarm the Security System.

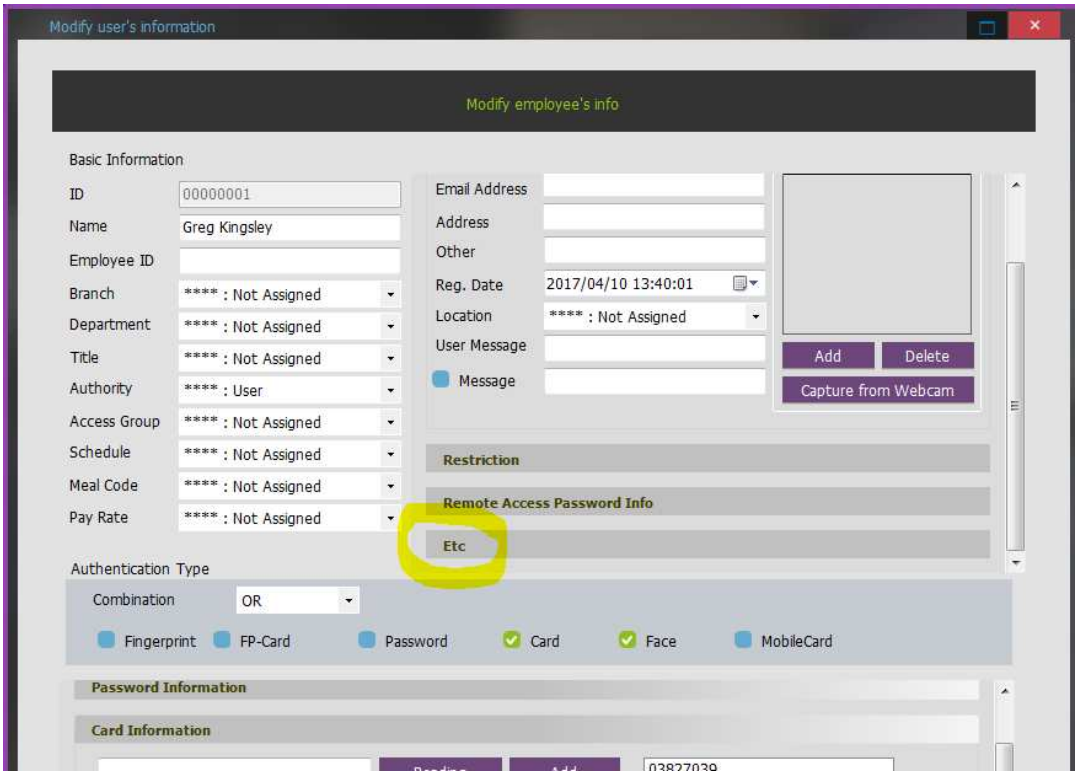
In MCP-040 Controller settings, selected card reader that will be used control the Arm / Disarm of the Area and then select the Partition (Areas) that reader will Arm / Disarm. (e.g. Wiegand Reader 1 will Arm / Disarm Security Area 1)

Then select the 'Mode' to be "Access + Security" ('Access' will provide Access only at that reader and 'Access + Security' will add Area Arm / Disarm control to selected Area(s).
1 valid card reader will disarm the Area and 3 Card presentations (during the Open Time / Unlock time) will Arm the selected Areas.

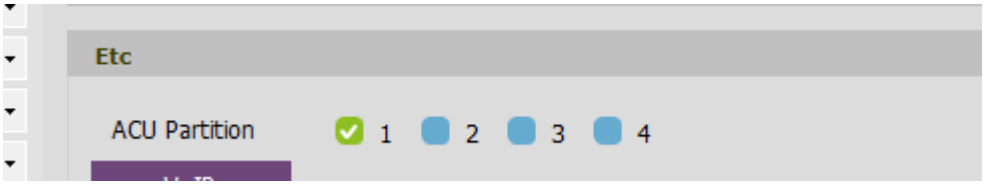


Users

Only users programmed with rights to Control the security Area(s) will Arm / Disarm their permitted area(s).
To Authorize a User to selected Area(s), from the user profile click on “Etc” option



Then select the Area(s) this User will be permitted to Arm / Disarm from the programmed readers.



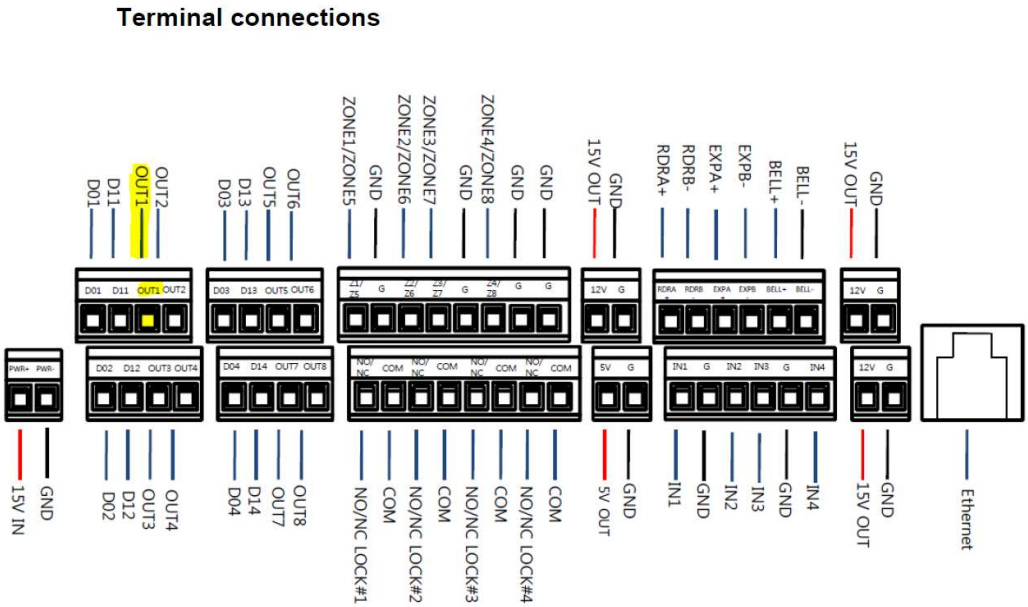
Note: If the User does not have ACU Partition (Security Area) rights then not only will they not be permitted to Arm / Disarm the Security Area, but they will be denied access at the reader (even if their Access Level is valid) while the Security Area controlled by the reader is Armed. This is designed to stop access by users not permitted to Disarm the Security system from accessing the secured area and activating ‘false alarms’.

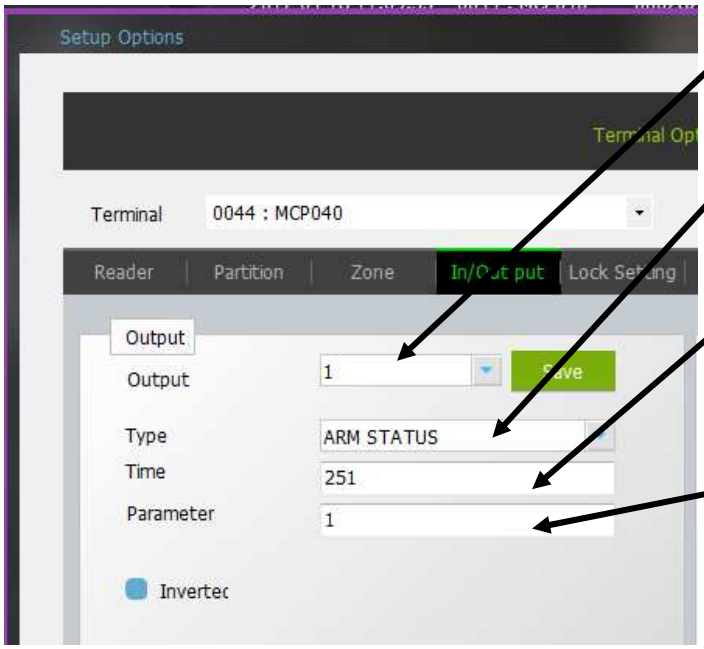
Door Security Alarm Status.

You now need to program an output of the MCP-040 Access Controller to interface to the M1 Security System.

From MCP-040 Controller settings, click on the “In/Output tab” and select the Aux Output you wish to activate when the Area is Armed. (This will be used to connect the M1 Zone Input to Arm / Disarm the M1, and can also be used to wire the Card Readers “LED” control wire so the reader can show the state of the Security Area (Note: Not all readers have “LED” Control). When connected the LED on the Reader will normally be ‘RED’ to show the Area is Disarmed and Green to show the Area is Armed. You can reverse this if required by selecting ‘Inverted’ in the Output option.

Selected the Output you are to use when the Area is Armed.
e.g. Aux Output 1





Select the output and then select ‘Type’ to be the “ARM STATUS”.

Under “Time” select 251 Seconds. (1-250 will activate the output for that time only, where 251 will toggle the Output on while the condition is present (i.e. while the Area is Armed) and turn off when the condition is clear (i.e. When the Area is Disarmed)

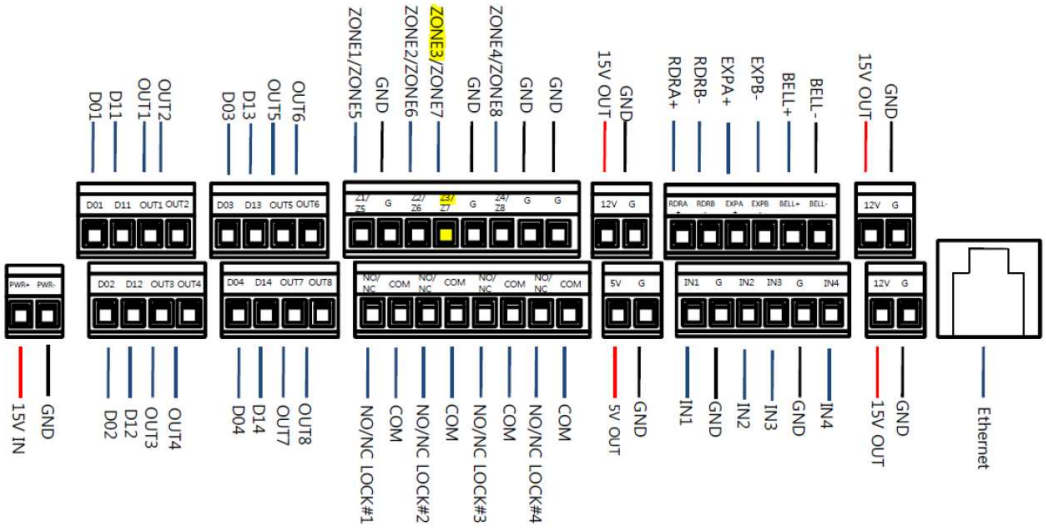
Select the “Parameter” for the Area you wish to activate the Output from (e.g. 1 will activate the Output when Area 1 is Armed.)

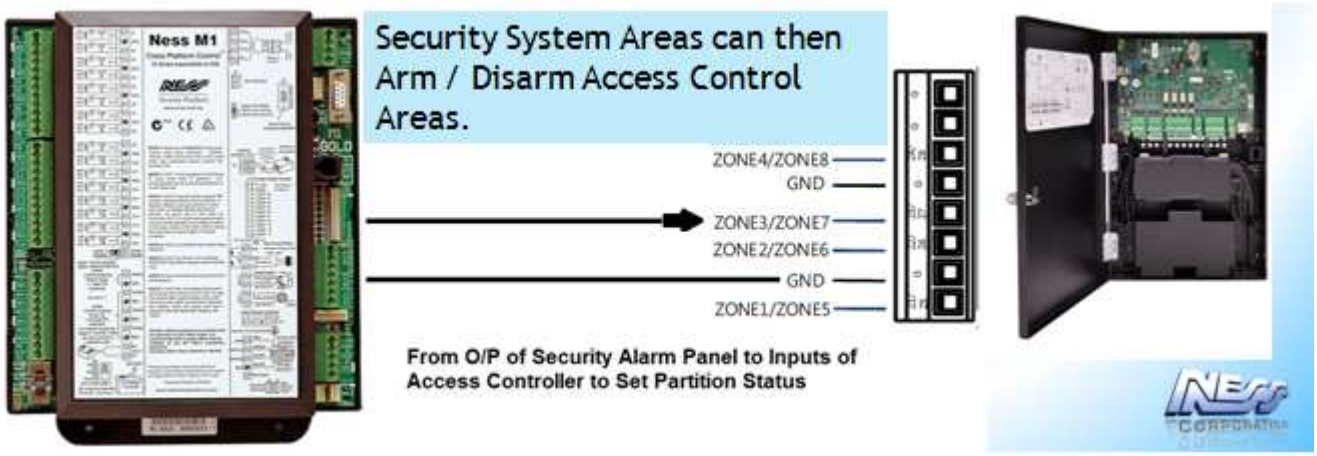
Don’t forget to click on SAVE and then Apply to send it to the controller.

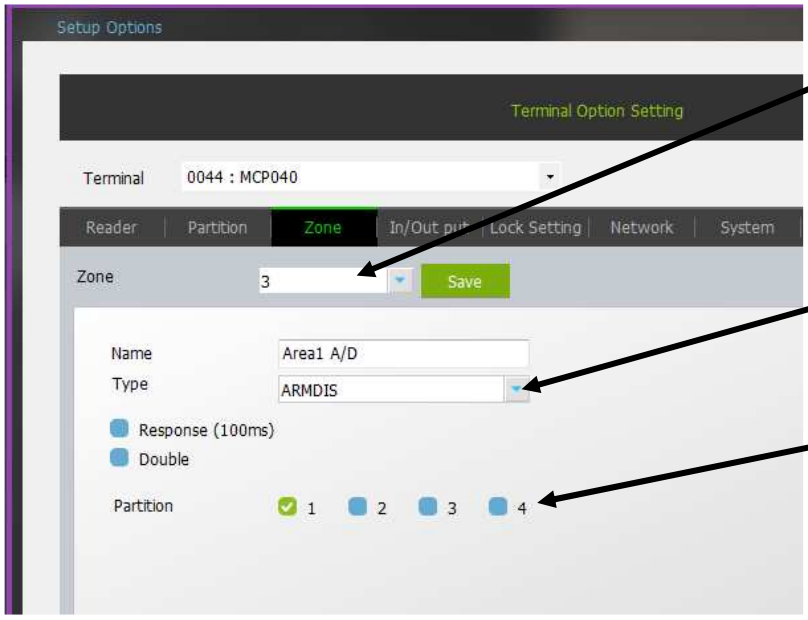
If you will also be Arming / Disarming from the M1 (e.g. M1 Keypad, M1 App etc) then you will also want to ‘Arm / Disarm’ the Access Control Area(s) to keep the system in Sync.

You will need to wire a link between the output from the M1 (e.g. Output 9) and a Zone / Aux Input of the MCP-040 Access Controller. (e.g. Zone / Aux Input 3)

Terminal connections







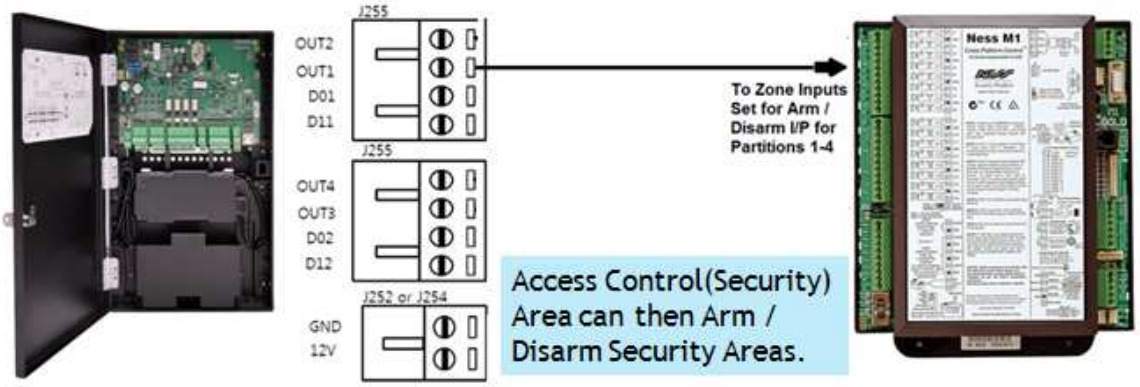
From MCP-040 Controller settings, click on the "Zone tab" and select the Zone (Aux Input) the M1 output is wired to. (e.g. Zone 3)

Give the Zone a name for your future reference and then select the 'Type' to be "ARMDIS"

Then select the 'Partition' (Area(s)) that will be Armed when this input is 'pulsed'.

Programming the M1

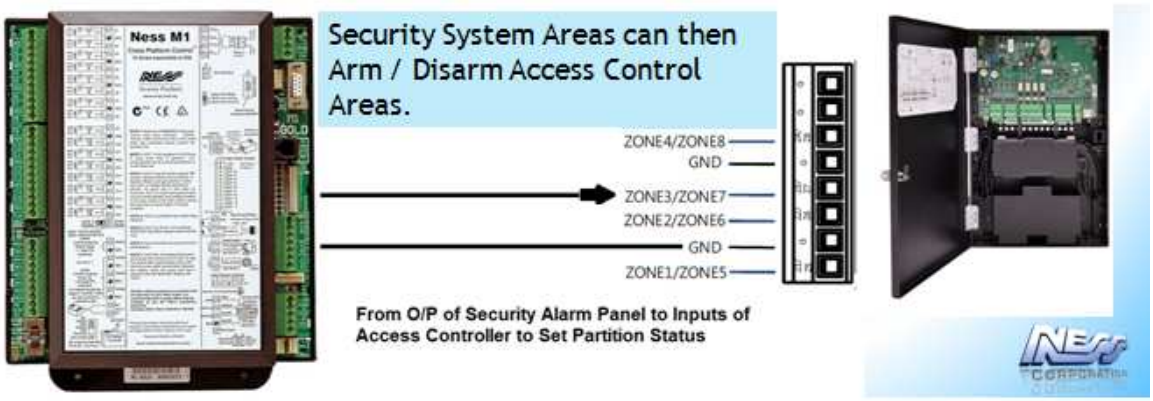
You need to add a wire link between the Access Controllers Aux output, as programmed on page 3 above, into a M1 Zone input. This input then needs to be programmed so when unsealed it will Arm the M1 and when sealed it will disarm the M1 Area.



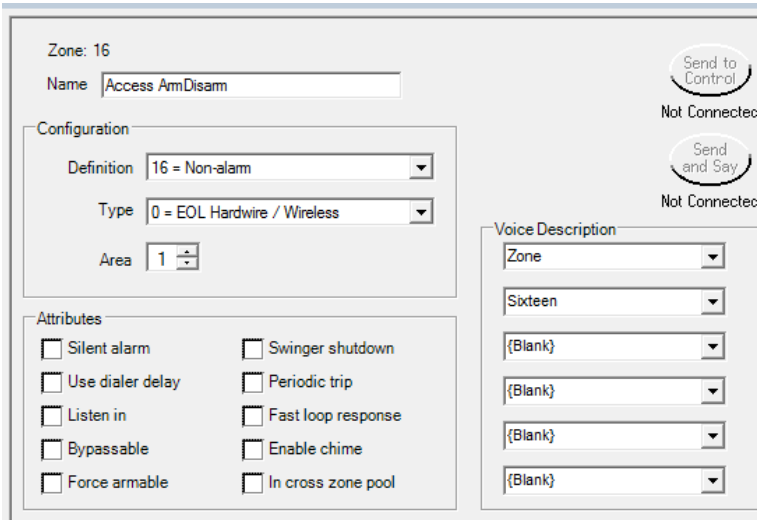
(NOTE: Make sure you connect the 0V from Access Controller and M1 together)

In our example, we will use Zone 16 on the M1 panel.

You will also need to hard wire a link between an M1 output and the input of the MCP-040 controller. (In our example we have used Output 9)



Program the M1 Zone as Definition "16=Non-alarm"



Then in M1 Rules you will need to program the following 4 M1 Rules;

Because the MCP-040 Access controller's Input only requires a 'pulse' to Arm / Disarm the 'AND' rules in the following are there to prevent the M1 from getting in a Arm / Disarm loop.

```
Access Control Arm/Disarm
WHENEVER Access ArmDisarm (Zn 16) BECOMES NOT SECURE
    AND Arm/DisarmAccess (Out 9) STATE IS OFF
        THEN ARM AREA(S) 1 TO AWAY IMMEDIATELY
```

```
WHENEVER Access ArmDisarm (Zn 16) BECOMES SECURE
        THEN DISARM AREA(S) 1 IMMEDIATELY
```

The Above 2 rules will Arm and Disarm the M1 when the Access controllers ARM status changes.

The following 2 rules will Arm / Disarm the MCP-040 Access Controllers Area when controlled by the M1.

```
WHENEVER  Ness Security M1 (Area 1) ARM STATE BECOMES ARMED
    AND Access ArmDisarm (Zn 16) IS SECURE
        THEN TURN Arm/DisarmAccess (Out 9) ON FOR 2 SECS
```

```
WHENEVER  Ness Security M1 (Area 1) ARM STATE BECOMES DISARMED
    AND Access ArmDisarm (Zn 16) IS NOT SECURE
        THEN TURN Arm/DisarmAccess (Out 9) ON FOR 2 SECS
```

Got Questions or Ideas?
We welcome your feedback and any application notes / Ideas you have.
Please Email me at
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