

Installation Manual

Farm Premium Controllers



Farm Premium, Premium-P, Premium XL, P-XL, XL 50 Climate Controllers

Ag/MIS/IGB-2045-01/13 rev. 3.1
P/N: 110088

Farm Premium, Premium-P, Premium XL, P-XL, XL 50

Installation Manual

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Product Software: Version 5.0X

This manual for use and maintenance is an integral part of the apparatus together with the attached technical documentation.

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Munters reserves the right to effect modifications to the apparatus in accordance with technical and legal developments.

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1 Introduction

1.1 Disclaimer

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1.2 Introduction

Congratulations on your excellent choice of purchasing an Farm Premium, Premium-P, or P-XL!
In order to realize the full benefit from this product it is important that it is installed, commissioned and operated correctly. Before installation or using the fan, this manual should be studied carefully. It is also recommended that it is kept safely for future reference. The manual is intended as a reference for installation, commissioning and day-to-day operation of the Munters Controllers.

1.3 Notes

Date of release: May 2009

Munters cannot guarantee to inform users about the changes or to distribute new manuals to them.

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2 Safety aspects

2.1 English

- Grounding
- Filtering
- Checking the battery level
- Frequency inverters

2.1.1 Grounding

- Always connect temperature and sensor shields to earth ground. Avoid mixing high voltage wiring with sensor and low voltage wiring.
- Keep the controller as far as possible from heavy contactor boxes and other sources of electrical interference.
- Do not connect communication wire shields, which go from one house to another at both ends. Connect them at one end only. Connection at both ends can cause ground loop currents to flow, which reduce reliability.
- The COM connection for communications is not the shield wire. The COM, RX and TX wires must connect to each other at all controllers.

2.1.2 Filtering

If this installation includes a power inverter to drive variable speed fans, install an EMI filter in front of the inverter, according to the specifications provided by the inverter manufacturer. Refer to the inverter documentation.

2.1.3 Checking the battery level

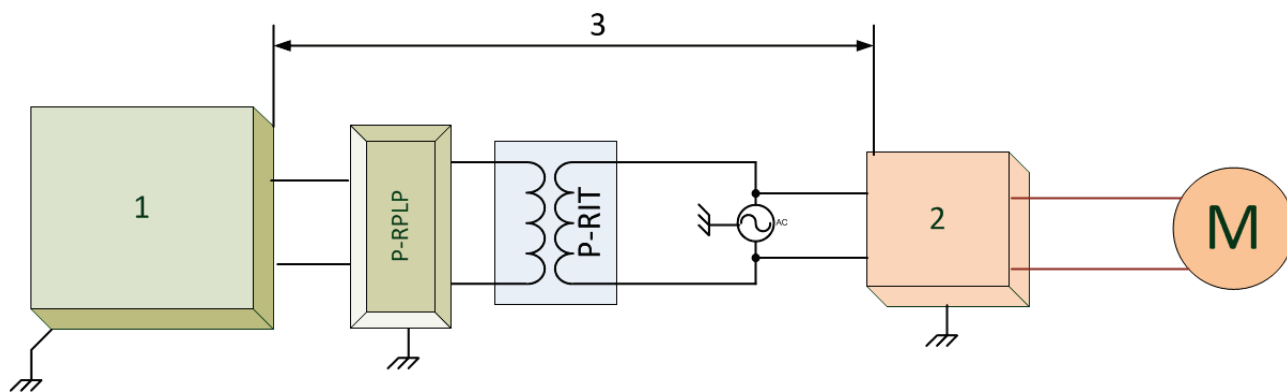
Check the battery once a year. The output must be 2.7 volts (minimum). Authorized personnel only must replace the battery if the output is below the minimum required level or every five years.

2.1.4 Frequency inverters

Frequency inverters can cause severe electrical and electromagnetic interference. Therefore, when employing a frequency inverter, it is critical that you carefully follow the manufacturer's installation instructions.

In particular verify:

- that the cable shielding between the inverter and any motor meets industry standards
- proper grounding of the inverter's chassis and motor power cable
- proper grounding of low voltage cable shield wire
- that the controller and inverter cables are kept in separate conduits or wire bundles



1. Controller
2. Inverter
3. Place the controller at least five meters from the inverter

2.2 French

- Raccord à la Terre
- Filtrage
- Vérification du Niveau de la Batterie
- Onduleurs de Fréquence

2.2.1 Raccord à la Terre

- Raccordez toujours à la terre les protections thermiques et du capteur. Evitez de mélanger les fils à haute tension avec les fils du capteur et les fils à basse tension.
- Maintenez le contrôleur aussi loin que possible du boîtier lourd de contacteur et des autres sources d'interférences électriques.
- Ne connectez les protections des fils de communication, allant d'une maison à une autre aux deux extrémités. Connectez-les à une seule extrémité uniquement. La connexion aux deux extrémités peut entraîner la circulation de courants dans la boucle de terre, et risquer ainsi de réduire la fiabilité.
- La connexion COM pour les communications n'est pas le fil blindé. Les fils COM, RX et TX doivent être connectés les uns aux autres au niveau de tous les contrôleurs.

2.2.2 Filtrage

Si cette installation comprend un onduleur de puissance capable d'actionner les ventilateurs à vitesse variable, installez un filtre EMI en amont de l'onduleur selon les spécifications fournies par le fabricant de l'onduleur. Référez-vous à la documentation de l'onduleur.

2.2.3 Vérification du Niveau de la Batterie

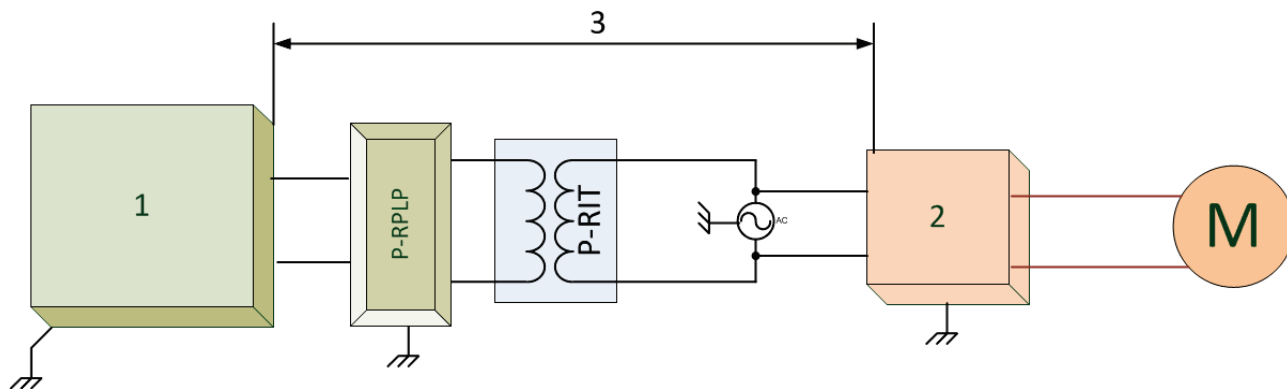
Vérifiez la batterie une fois par an. La sortie doit être 2.7 volts (minimum). Seul le personnel autorisé est en droit de remplacer la batterie si la sortie est inférieure au niveau minimum ou tous les cinq ans.

2.2.4 Onduleurs de Fréquence

Les onduleurs de fréquence peuvent causer de sévères interférences électriques et électromagnétiques. Par conséquent, lorsque vous utilisez un onduleur de fréquence, il est essentiel de suivre scrupuleusement les instructions du fabricant.

Vérifiez en particulier :

- Que la protection des câbles entre l'onduleur et le moteur réponde aux normes industrielles.
- Que le raccord à la terre pour le châssis de l'onduleur et le câble d'alimentation du moteur soit correct
- Que le raccord à la terre du fil de protection du câble à basse tension soit correct
- Que les câbles du contrôleur et de l'onduleur soient conservés dans des conduites séparées ou des faisceaux de fils



1. Manette
2. Onduleur
3. Placez le contrôleur à au moins 5 mètres de l'onduleur

3 Before using

The following sections detail the initial steps required when installing the Farm Premium Controllers (broilers, layers, and pigs).

- Specifications
- Layout

3.1 Specifications

Input Power Voltage	• One Phase 115 ± 10 VAC (USA and Canada) • 230 ± 20 VAC (Outside USA and Canada) • 0.5 Amp, 50-60Hz (Farm Premium, Farm Premium- P, Farm Premium XL, Farm Premium-P XL) • 0.75 Amp, 50-60Hz (Farm Premium XL 50)
Relay Loads	• 5.0 Amps Active Load; 1/4 HP Inductive Load, 250 Volts, non-Fused for C-PP-NO-RC-10A relay cards • 30.0 Amps Active Load; 2 HP Inductive Load, 250 Volts, non-Fused for C-PP-NO-RC-30A relay cards • 20.0 Amps Active Load; 1 HP Inductive Load, 250 Volts, non-Fused for C-PP-NC-RC-30A relay cards • 20.0 Amps Active Load; 1 HP Inductive Load, 250 Volts, non-Fused for C-PP-WC-RC-30A relay cards
Analog Inputs	• 0 - 11 Volts, 10 Milliamps Maximum
Analog Output	• 0 - 10 Volts; Current Limited with 100-Ohm Resistor
Digital Inputs	• 5 ma @ 5 Volts, Dry Contact
Operating Temperature Range	• 0° to +50° C (14° to 125° F)
Enclosure	• Water and Dust Tight
Fuses	• Main fuse: 1.25 Amps, 250 Volts • Others: 5 Amps, 250 Volts
Certification	   

3.2 Layout

The following illustration displays the main elements in Farm Premium units.

- The installation of the different Farm Premium models is almost exactly the same. Any differences are shown in the illustrations. In particular, the manual shows differences between the Farm Premium and Farm Premium XL 50power supplies.
- While each unit is configured according to the user's requirements, common elements are illustrated in this manual. .

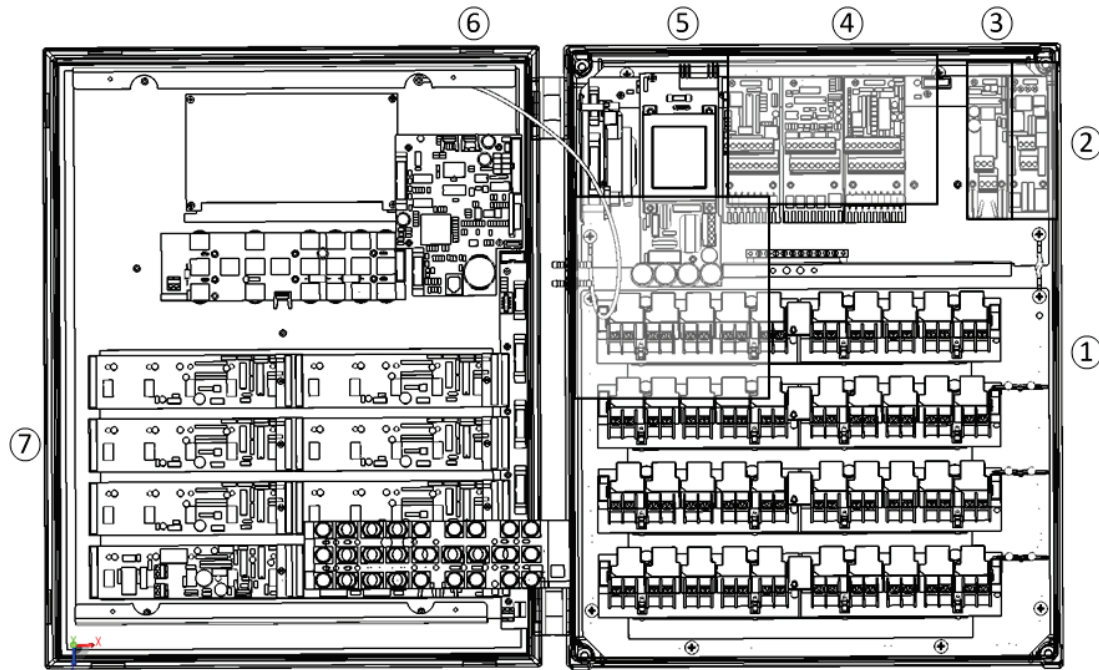


Figure 1: Farm Premium layout

Figure 1 key			
1	40 relays (NO, NC, Current sense)	5	Power supply
2	Communication card	6	ARM card
3	Alarm card	7	Switch cards (Standard NO, NC, Winch, Emergency, Current sense)
4	Digital/Analog input-output cards		

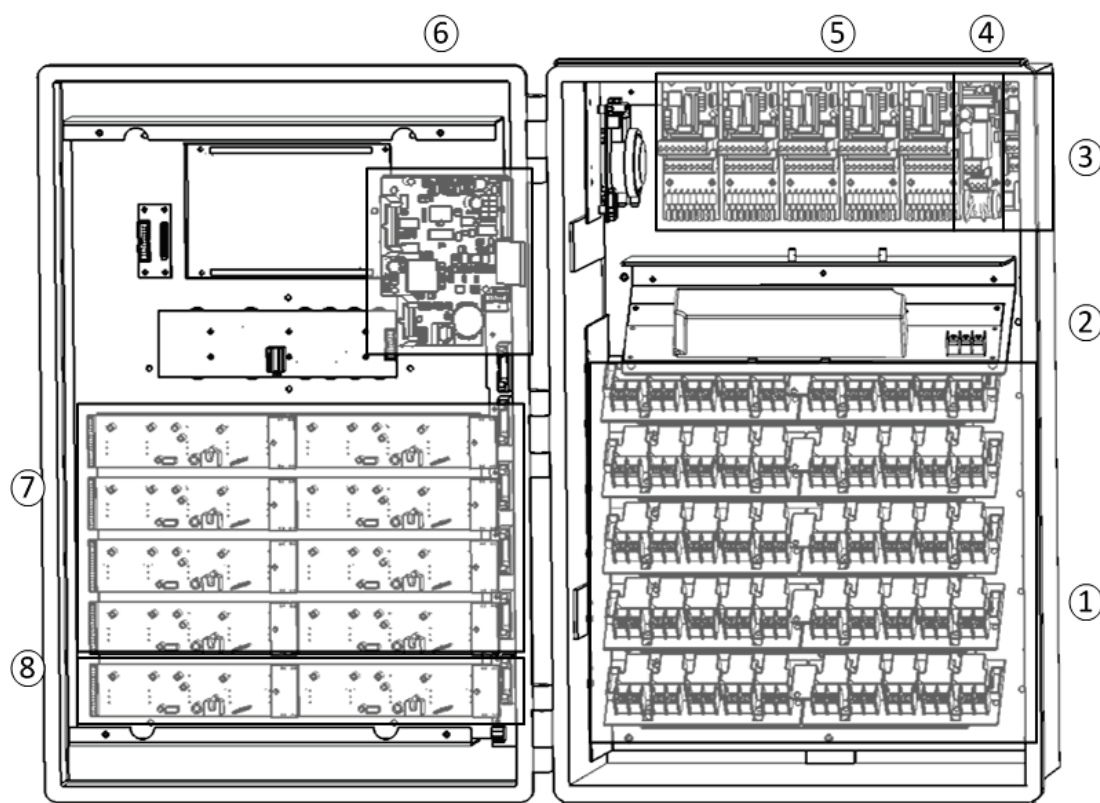


Figure 2: Farm Premium XL 50 layout

Figure 2 key

1	50 relays (NO, NC, Current sense)	5	Digital/Analog input-output cards
2	Power supply card	6	ARM card
3	Communication	7	Switch cards (Standard NO, NC, Winch, Emergency, Current sense)
4	Alarm card	8	Switch cards (Standard NO)

➡ In the 5th row of the switch cards only use PP ROW-5 Normally Open Switch CARDS (P/N: C-PP5-NO-SC). Placement of any other type of switch card (Winch, Emergency, Normally Close or standard Normally Open) causes system conflict.

4 Site Preparation

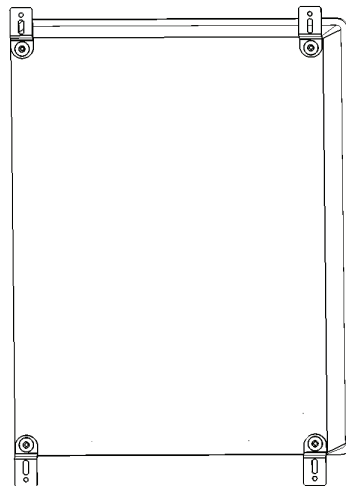
The following sections detail the initial steps required when placing the Farm Premium Controllers.

4.1 Mounting

1. Remove the mounting plates (x4) and screws (x8) from the plastic bag.



2. Fasten the mounting plates to the corners of the controller using four screws.



3. Place the controller box on the wall and make sure it is leveled (use a spirit level).

4. Using the remaining four screws, secure the controller to the wall.

4.2 Drilling

Drill holes on the side and bottom of controller box according to the steps defined below. Use these holes to route the low and high voltage cables.

CAUTION Make sure not to damage cards when drilling holes. Locate holes properly before drilling!

1. Drill a hole on the right side of the controller box. **Verify** that the low voltage cables being used fit through the hole properly.

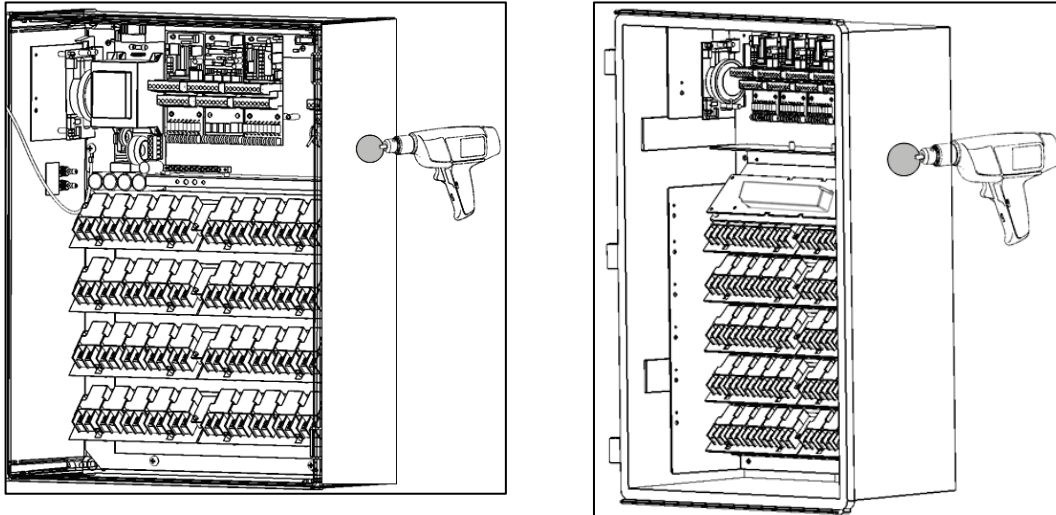


Figure 3: Drilling on the side

2. Drill a hole on the bottom side of the controller box. **Verify** that the high voltage cables being used fit through the hole properly.

NOTE Munters recommends drilling at least two (2) holes, 10 to 15 cm diameter each (dependent on the number of wires to be threaded). Place the holes as close to the front edge as possible (to avoid crowding the wiring).

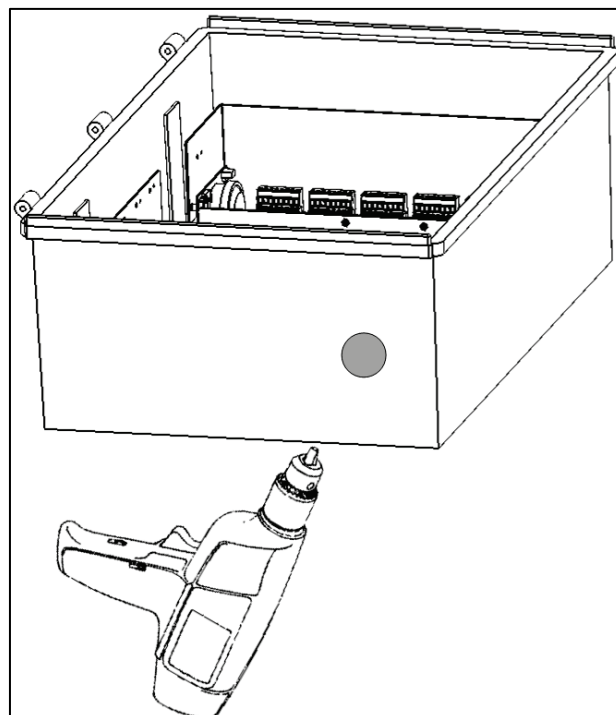


Figure 4: Drilling on the bottom

3. Clean the holes from plastic shards. **Verify** that rims of holes are smooth.

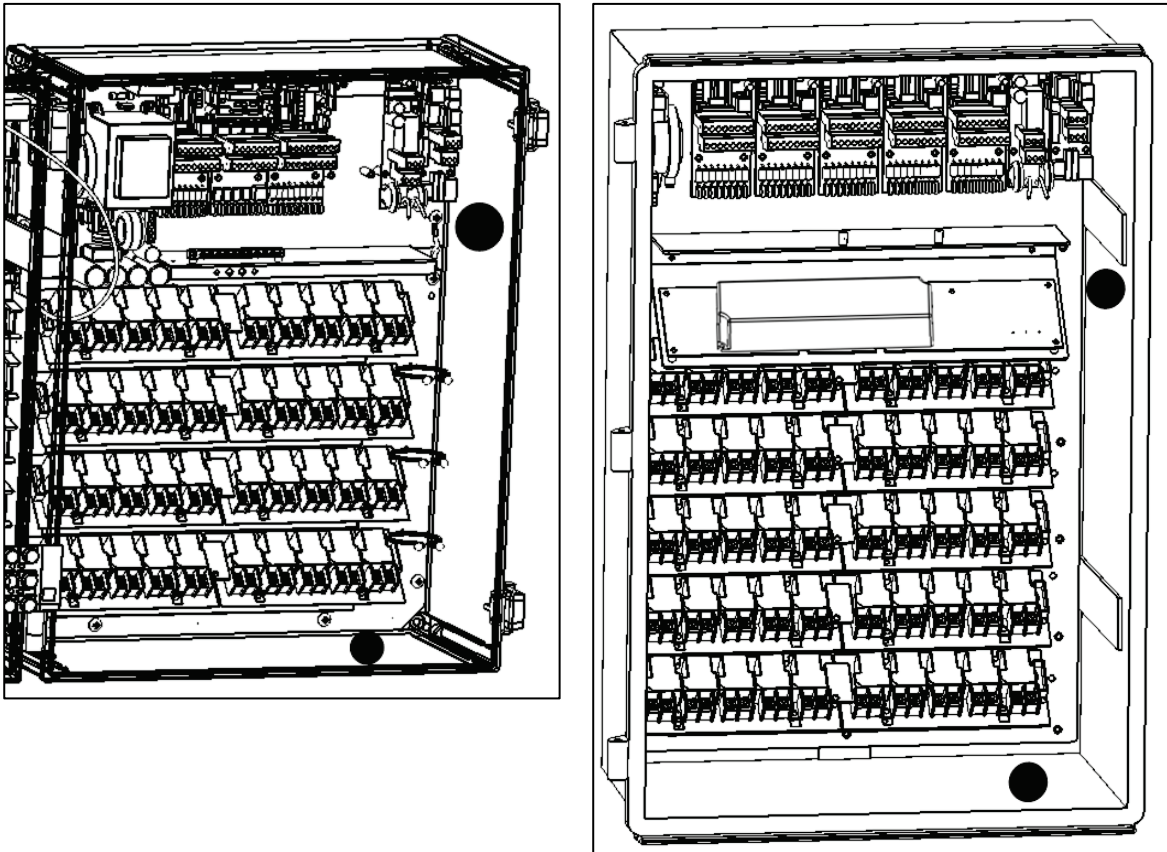


Figure 5: Hole locations

5 High voltage wiring

This section details how to wire the controller's high voltage wiring:

WARNING! Only a qualified electrician may perform the electrical installation!

ALERTE! Installer ce produit par un électricien agréé et formé comme spécifié dans votre code électrique national local.

- Power supply, page 15
- Relay wiring, page 18
- Winch Card relay wiring , page 20

WARNING! Before beginning, verify that the power supply has been disconnected!

ALERTE! Avant de démarrer, vérifiez que l'alimentation électrique ait été coupée !

5.1 Power supply

- Main grounding wire **should come** connected to the ground terminal (1).
- Connect electricity to the controller power supply (2).
- Connect the grounding strip to the grounding rod (3).
- 230 VAC, 50/60 Hz; USA: L1, L2; ROW line, neutral (4)

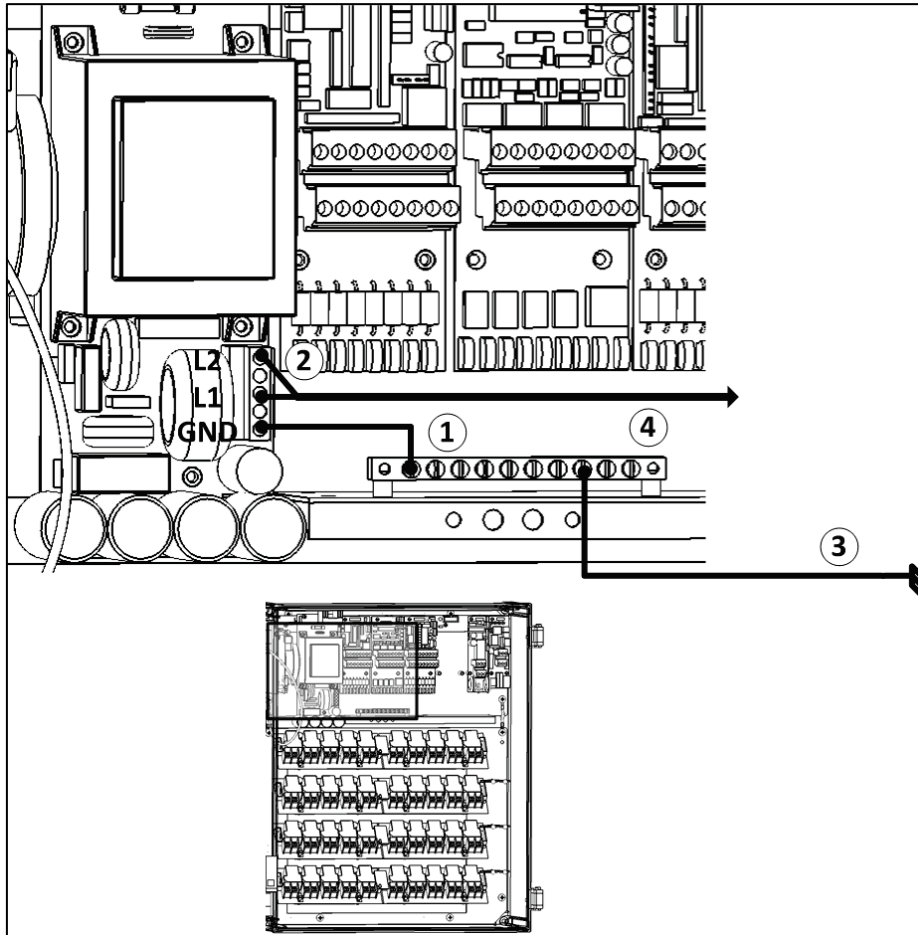


Figure 6: Farm Premium power supply wiring diagram

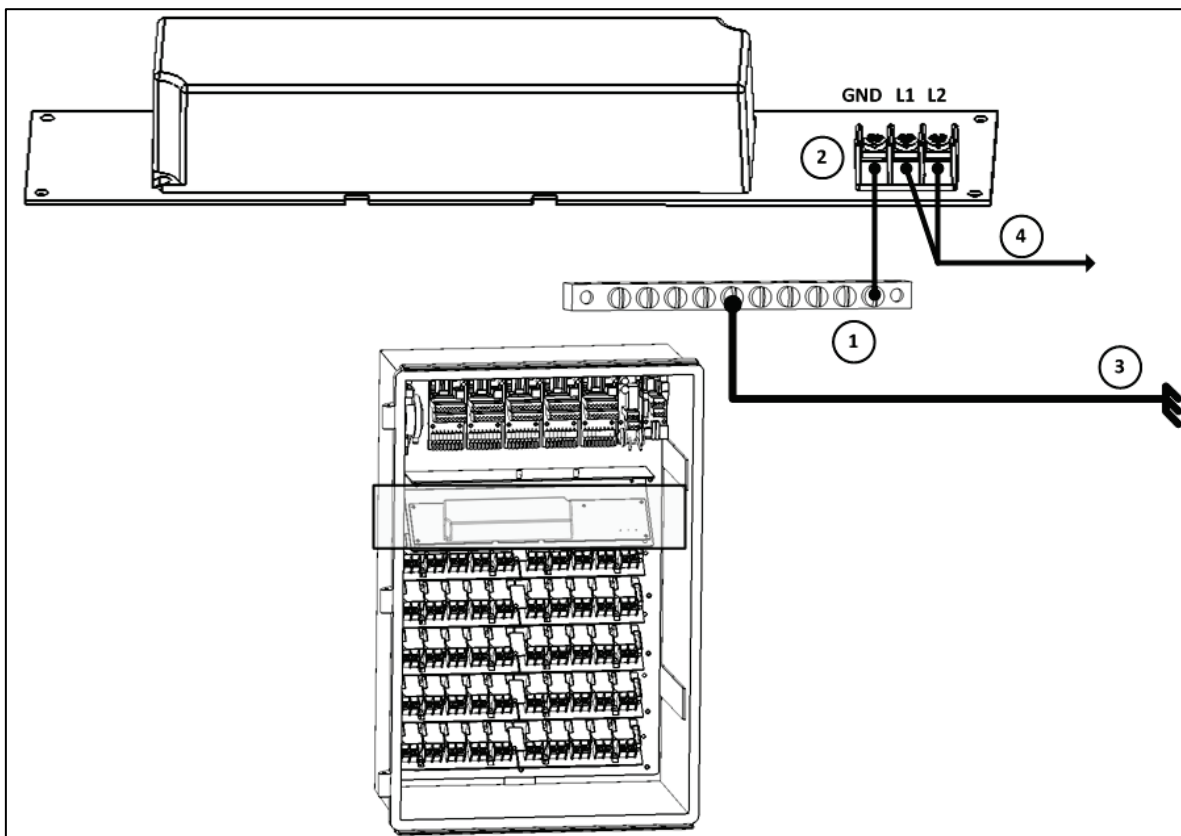


Figure 7: Farm Premium XL 50 power supply wiring diagram

5.1.1 RPLP wiring

The following section details how to wire an Farm Power Supply Lightning Protector unit to the Farm Premium power supply.

CAUTION Install the RPLP, 230 V only (part number P-RPLP-1-V2)!

On the RPLP's protected side:

1. Connect the RPLP grounding wire to the grounding terminal.
 2. Connect the RPLP Neutral terminal to the L1 terminal.
 3. Connect the RPLP Line terminal to the L2 terminal.
- 230 VAC, 50/60 Hz; USA: ground, L1, L2; ROW Ground, line, neutral (4)
 - USA: L1, L2; ROW Line, Neutral (5)

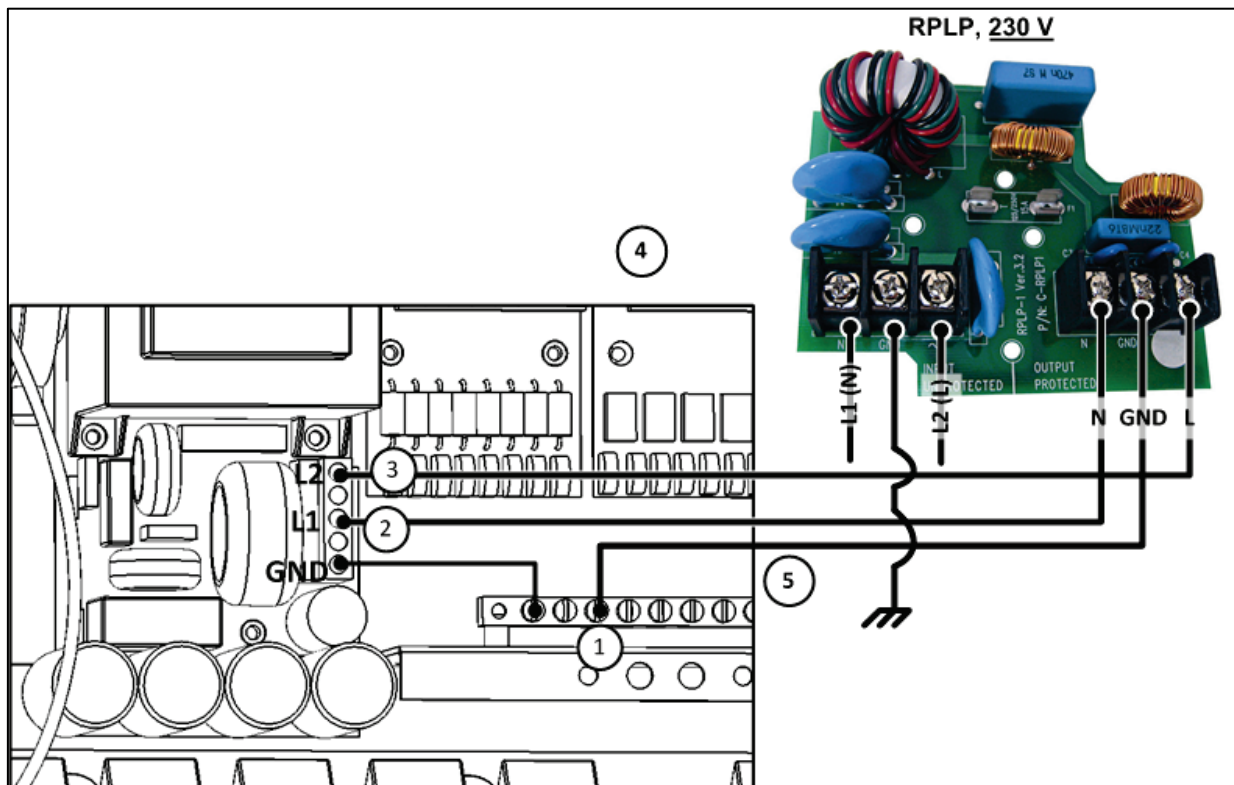


Figure 8: Wiring the Farm Premium RPLP

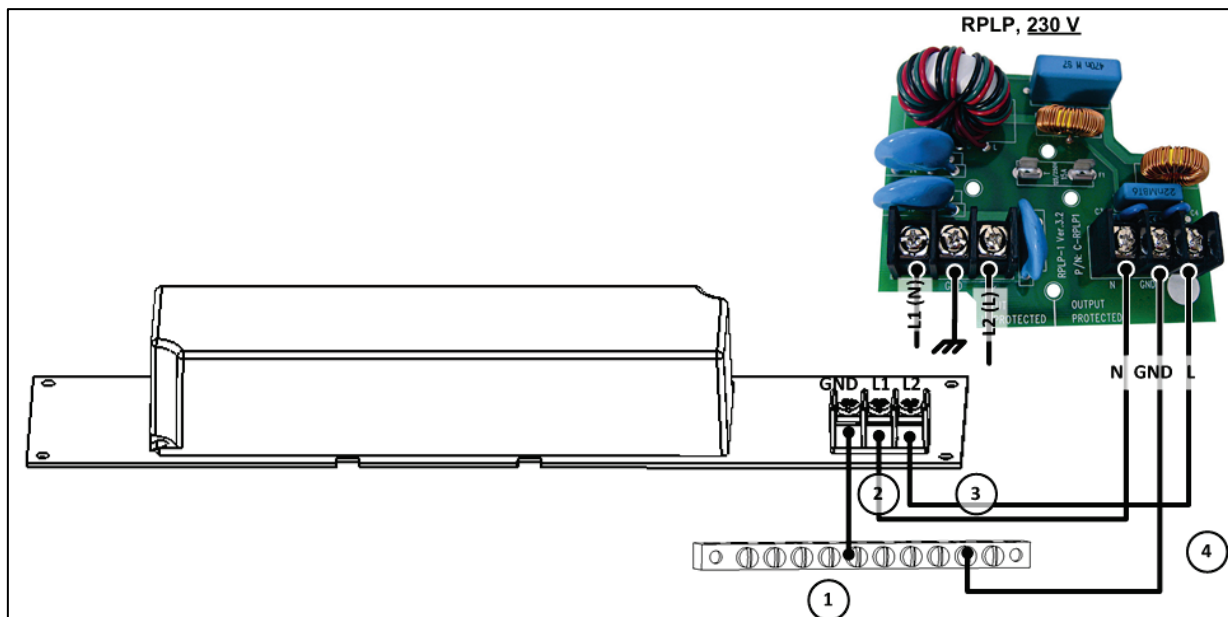


Figure 9: Wiring the Farm Premium XL 50 RPLP

5.2 Relay wiring

This procedure details how to connect output relays to poultry house devices.

WARNING! Before beginning, verify that the power supply has been disconnected!

To wire the relays:

1. Connect the **control phase commons** to the relays' contacts (the common wire to all relays with the same function).

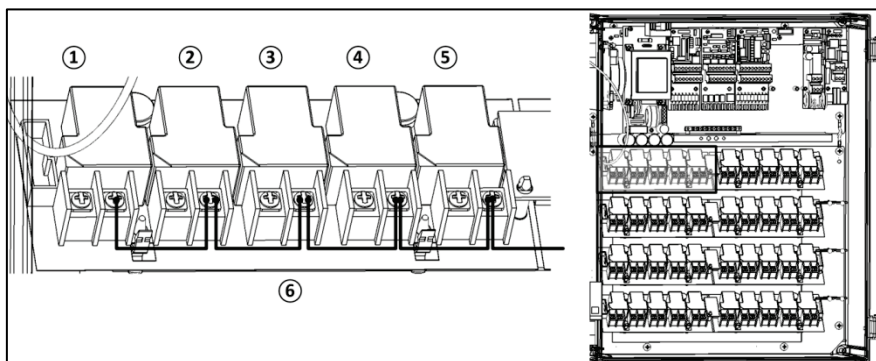


Figure 10: Control Phase Commons

Figure 10 key

1-4	Exhaust fans	6	Control phase commons
5	Tunnel fans		

2. On the sticker below each relay, write the name of the device connected to the relay.
3. Connect the **relay cables** to each relay.

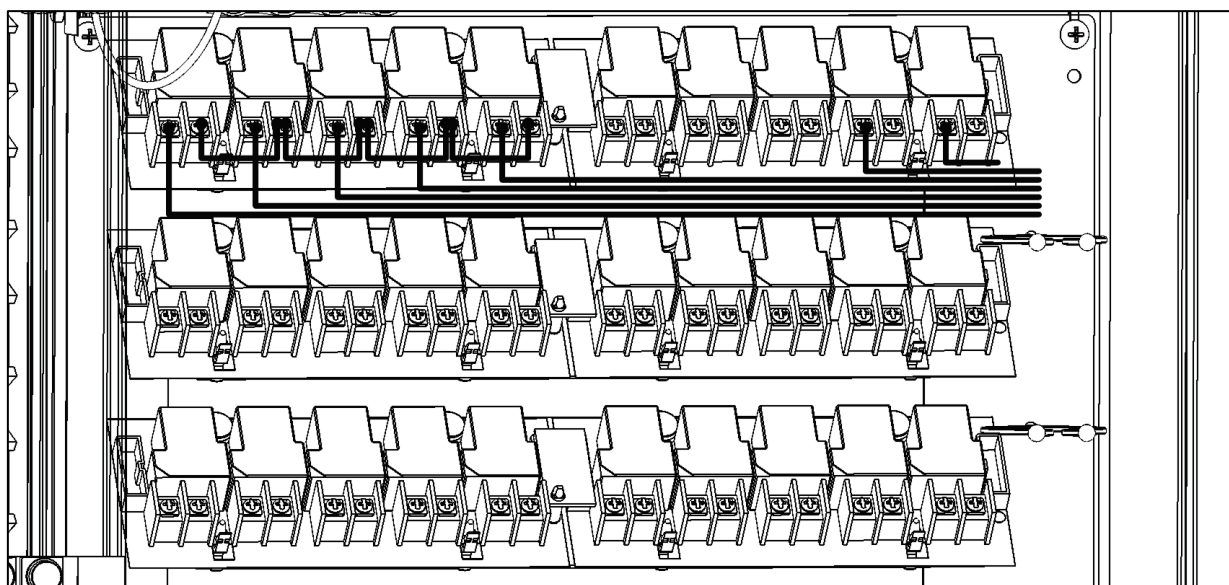


Figure 11: Relay Cable Connections

4. Connect the **control phase cable** to active multiple devices on the same circuit breaker.

CAUTION A control phase wire is only employed *outside* of the USA.

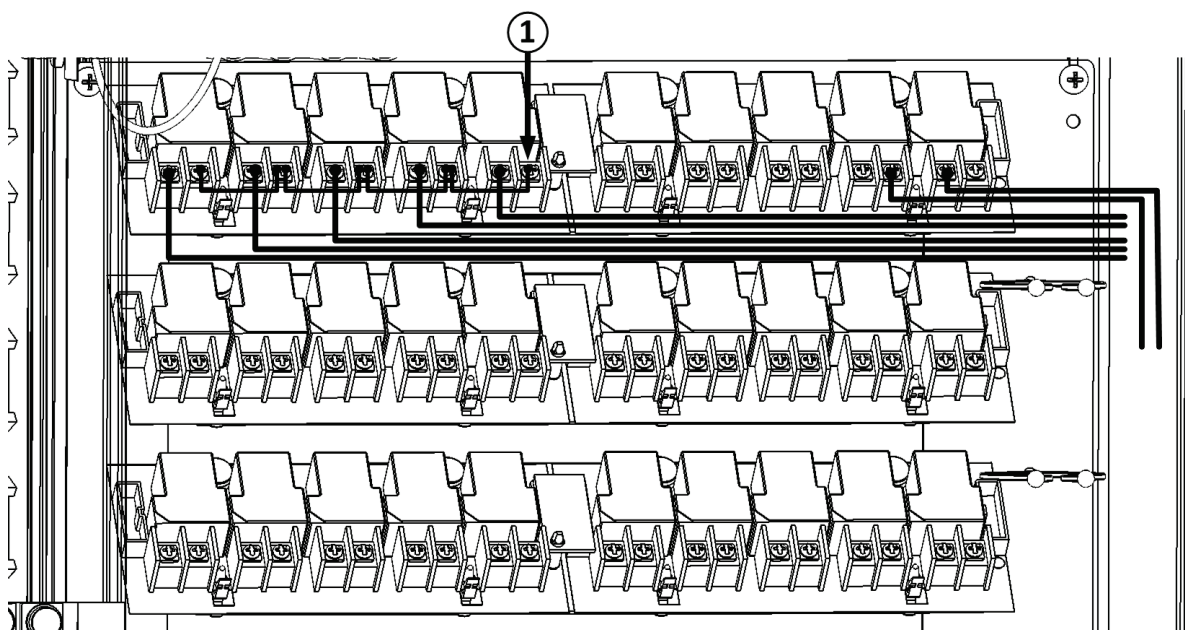


Figure 12: Control Phase Cable Wiring

Figure 12 key

1	Control phase cable
---	---------------------

5. Locate the bag of stickers placed on the inside of the Farm Premium door.

6. On the front of the controller, place the appropriate label above the switch that corresponds with the electrical setup.

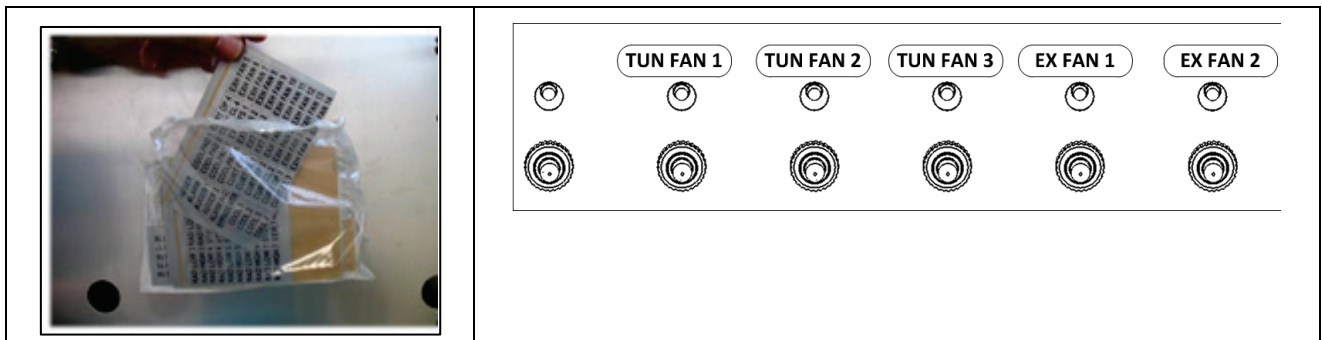


Figure 13: Controller labels

5.3 Winch Card relay wiring

This procedure details how to connect Winch Cards to the inlets.

NOTE Winch Cards are optional. Users employing an FBU-27 do not require Winch Cards. Munters recommends that users employing an FBU-5 or FBU-3 install Winch Cards.

To install the Winch Card:

1. Connect separate **control phase commons** for each inlet or curtain.

NOTE Winch cards are equipped with two Normally Closed relays.

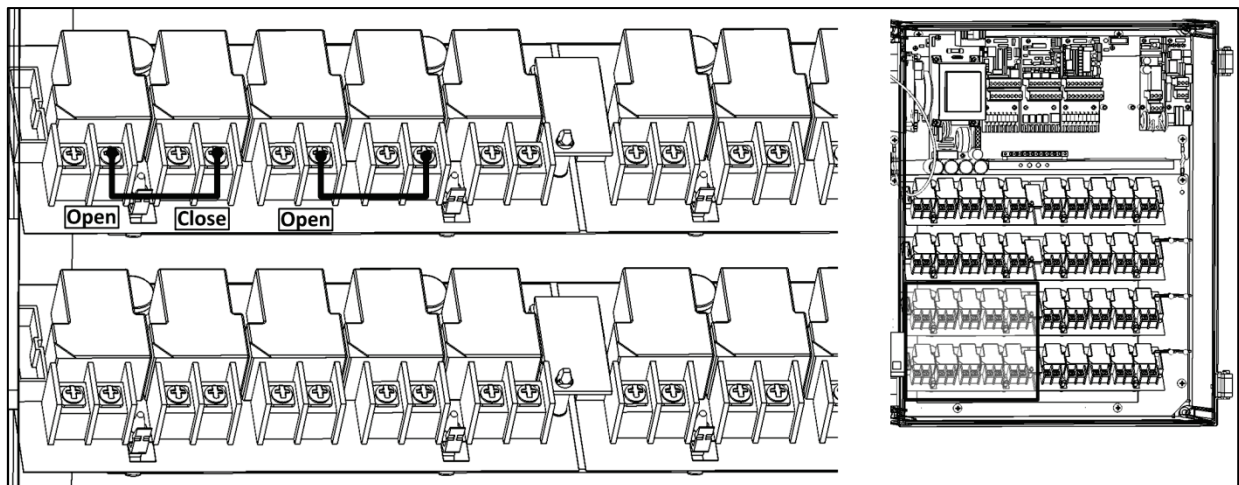


Figure 14: Winch Card Control Phase Commons

2. Connect the **control phase wire** to phase commons.

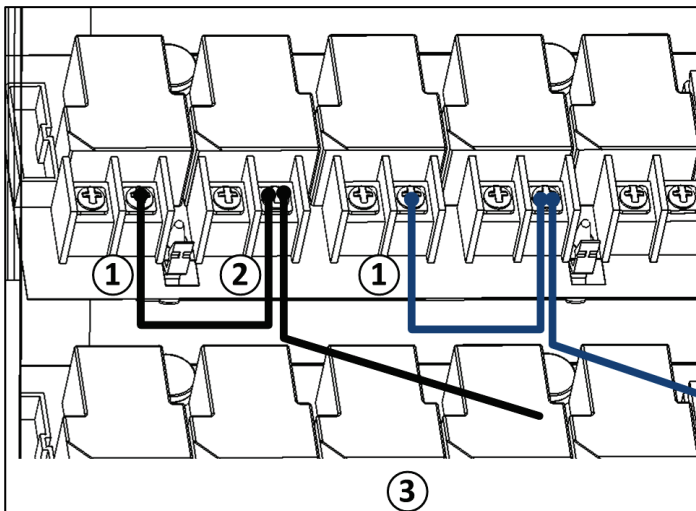


Figure 15: Wiring Control Phase Wire to Phase Commons

Figure 15 key

1	Open	3	Connect control phase wire to L1 power port (inlet or tunnel machine)
2	Close		

3. Connect the **output wires** to the inlet/curtain equipment.

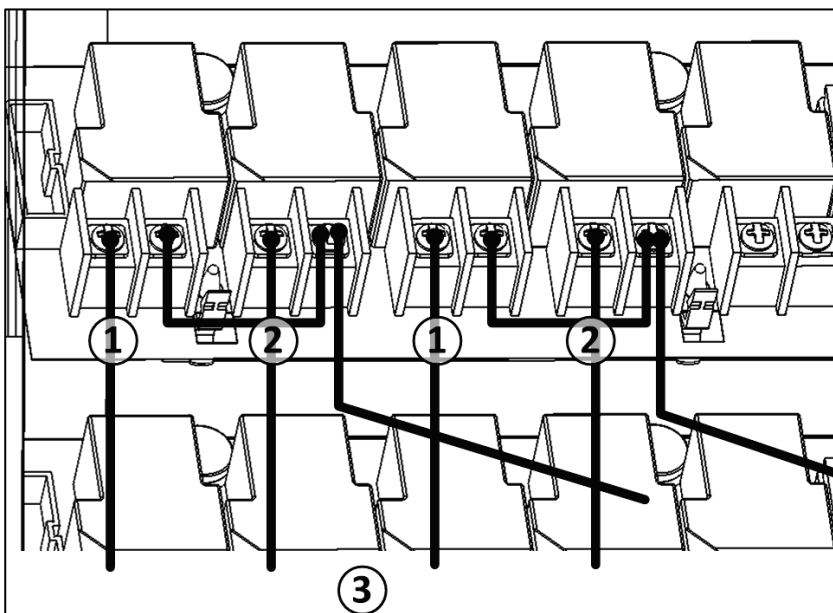


Figure 16: Connecting the Output Wire to Inlets/Curtains

Figure 16 key

1	Open	3	To output devices
2	Close		

5.4 Completing the Wiring

- Tie the cables together with tie wraps and route them as shown (through the high voltage wiring holes drilled as shown in Drilling, page 13).

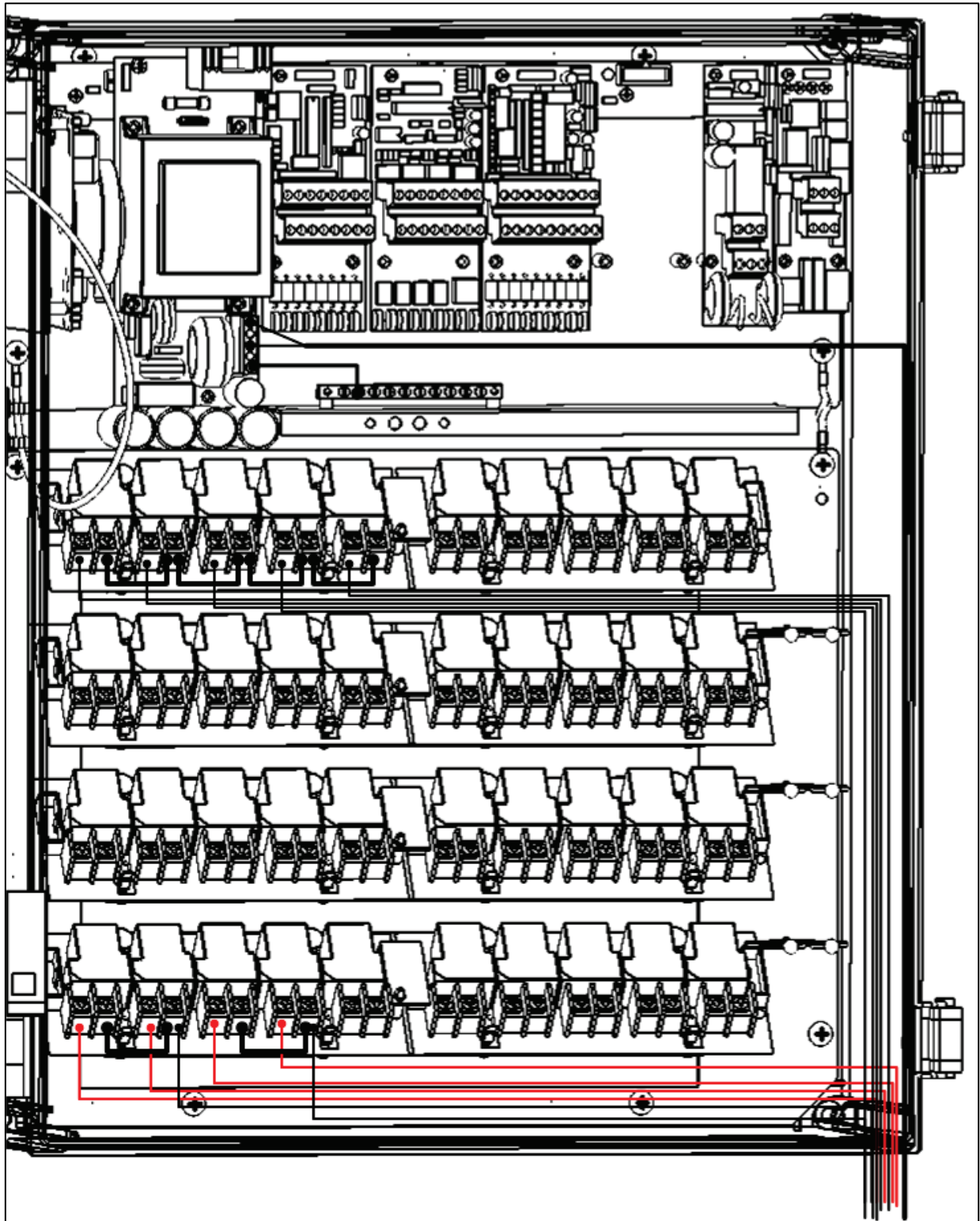


Figure 17: Wrapping the cables in the Farm Premium

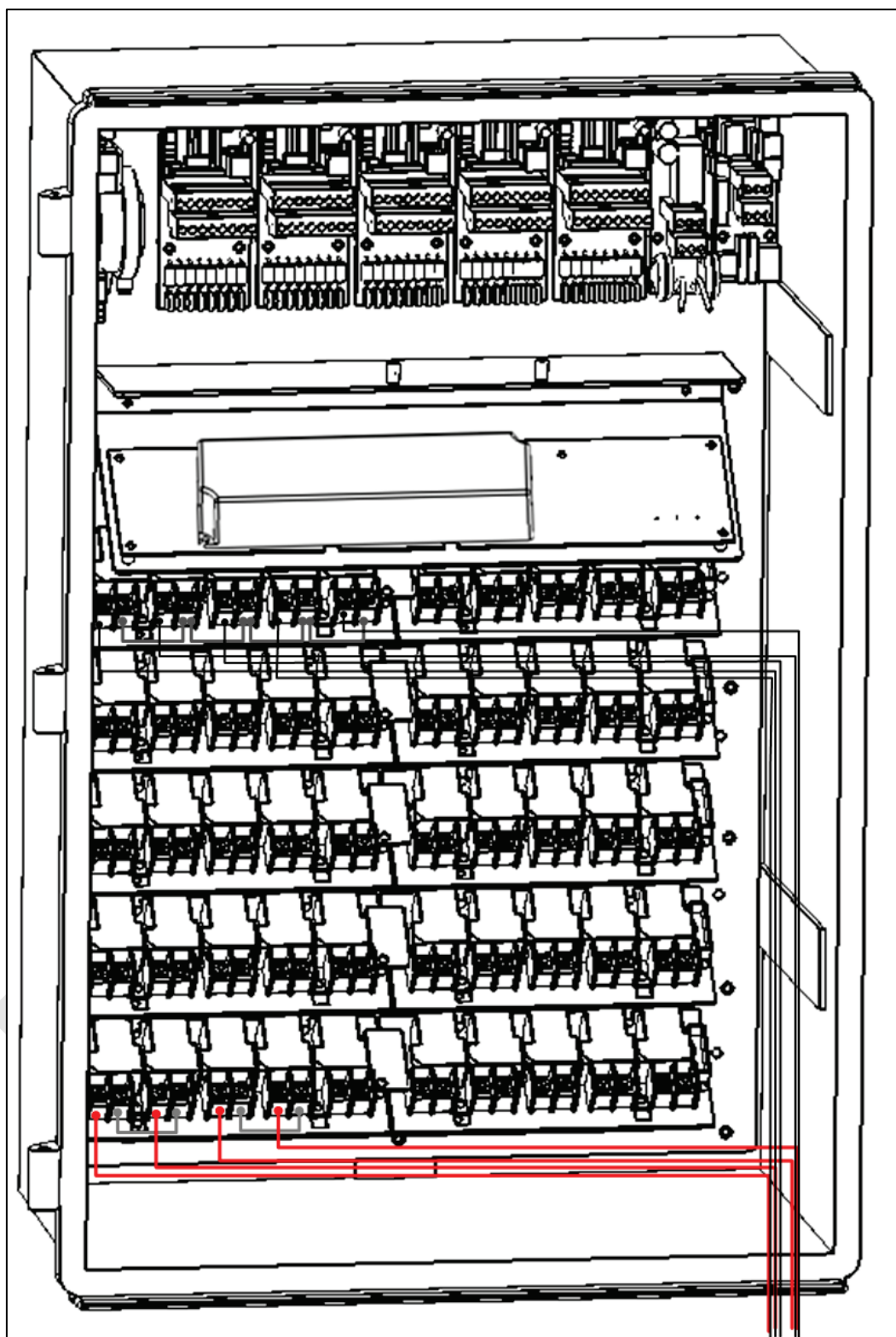


Figure 18: Wrapping the Cables in the Farm Premium XL 50

6 Emergency card installation

The Emergency Card (optional) ensures operation of five Normally Closed outputs in the event of a main controller failure. The card features:

- An independent CPU
- An independent temperature sensor
- A battery and charger connection
- Battery status indicator

The five Normally Closed outputs are UL rated at 1.5 HP, 220 Volt. Munters recommends that equipment rating not exceed:

- 1 HP 220 Volt
- ½ HP 110 Volt

Emergency cards are generally used for the following scenarios:

- To maintain minimum ventilation using fans during state of emergencies (meaning the controller is not functioning).
- To operate the tunnel curtain open or side inlet.

NOTE An Emergency Card is optional. Farm Premium sends an alarm when the battery produces less than 12 volts.

To install an Emergency Card:

1. Loosen the four screws as shown and gently lift the metal plate.

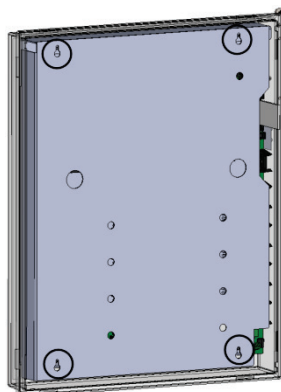


Figure 19: Lifting the Metal Plate

2. Connect the **Inside Temperature sensor** to the Emergency Card.
1. Connect the Emergency Card to the Emergency Battery Charger (PN: A-PP-EM-BAT).
2. Connect the Emergency Battery Charger to the supplied 12V battery.

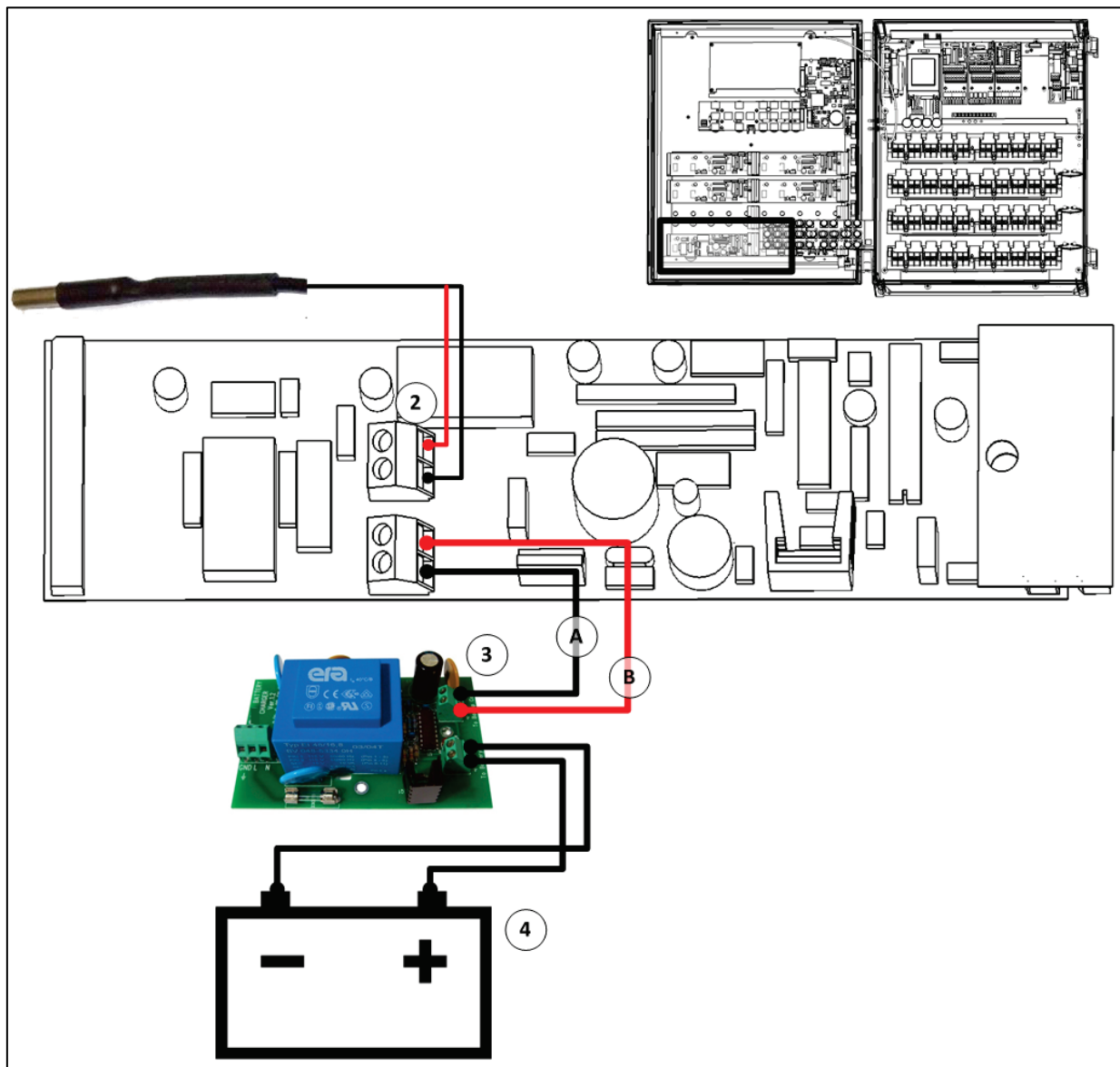


Figure 20: Wiring the Temperature Sensor to the EC

Figure 20 key			
1	Temperature sensor connection	3	12V battery
2	Emergency card/Battery charger card	A	Black (-)
B	Red (+)		

3. Connect common wires and control phase wires onto Normally Closed cards for emergency situations.

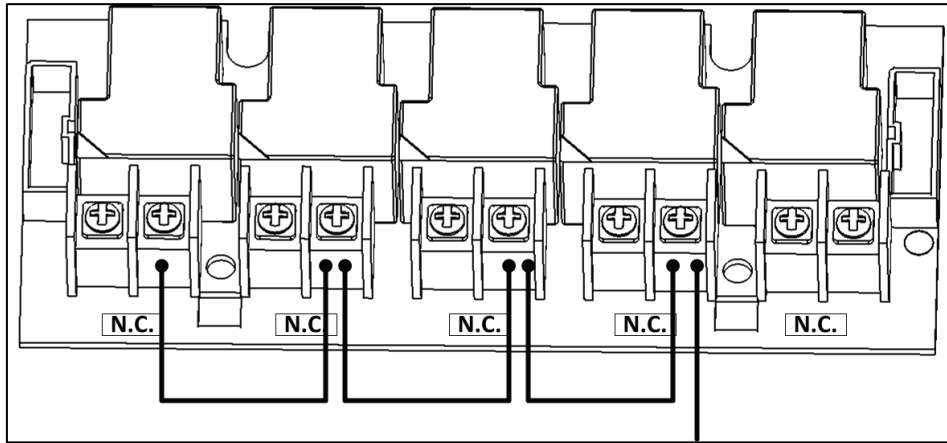


Figure 21: Common wires connected to Normally Closed cards

NOTE For fans, connect separate phases from the circuit breakers.

4. Connect output wires to the ventilation device
5. Reattach the metal plate on the back door and tighten the four screws.

7 Scales installation

This section details the following scale installations:

- Bird scale, page 27
- Feed scale, page 29
- Silo scale, page 30

7.1 Bird scale wiring

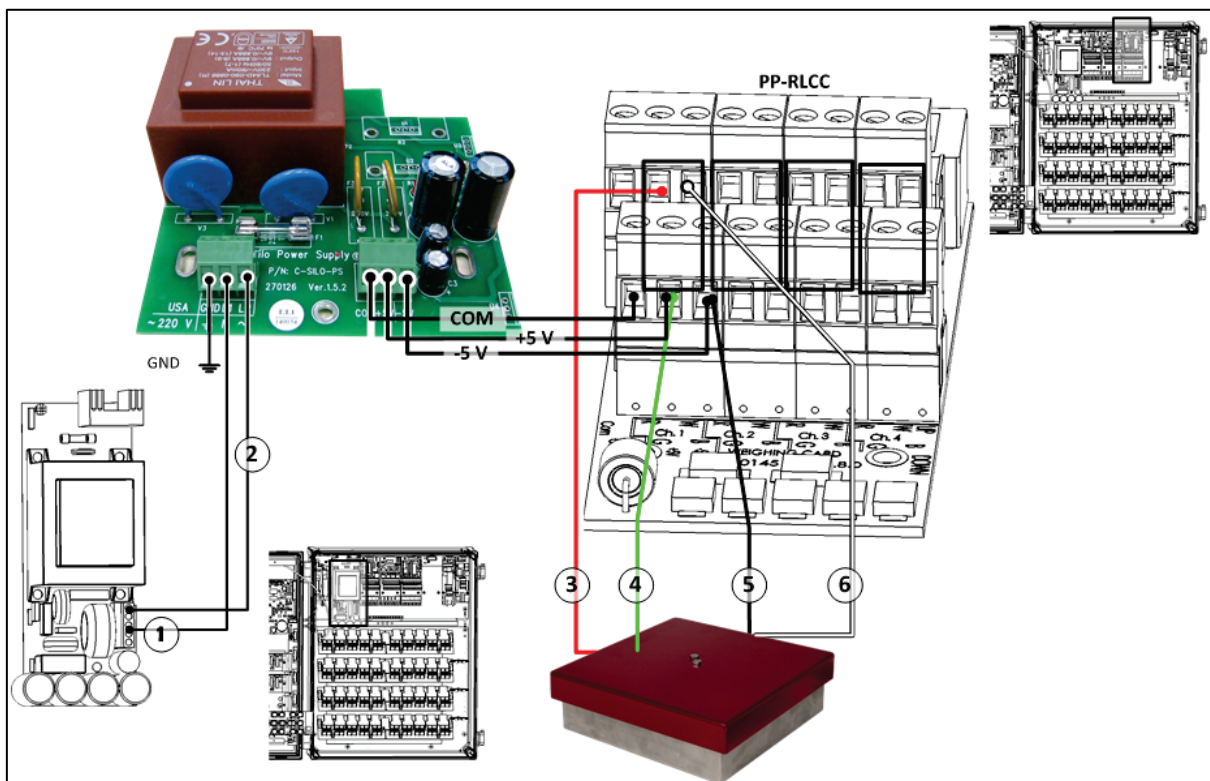


Figure 22: Bird Scale Wiring Diagram

NOTE Farm Premium Pigs does not support this installation.

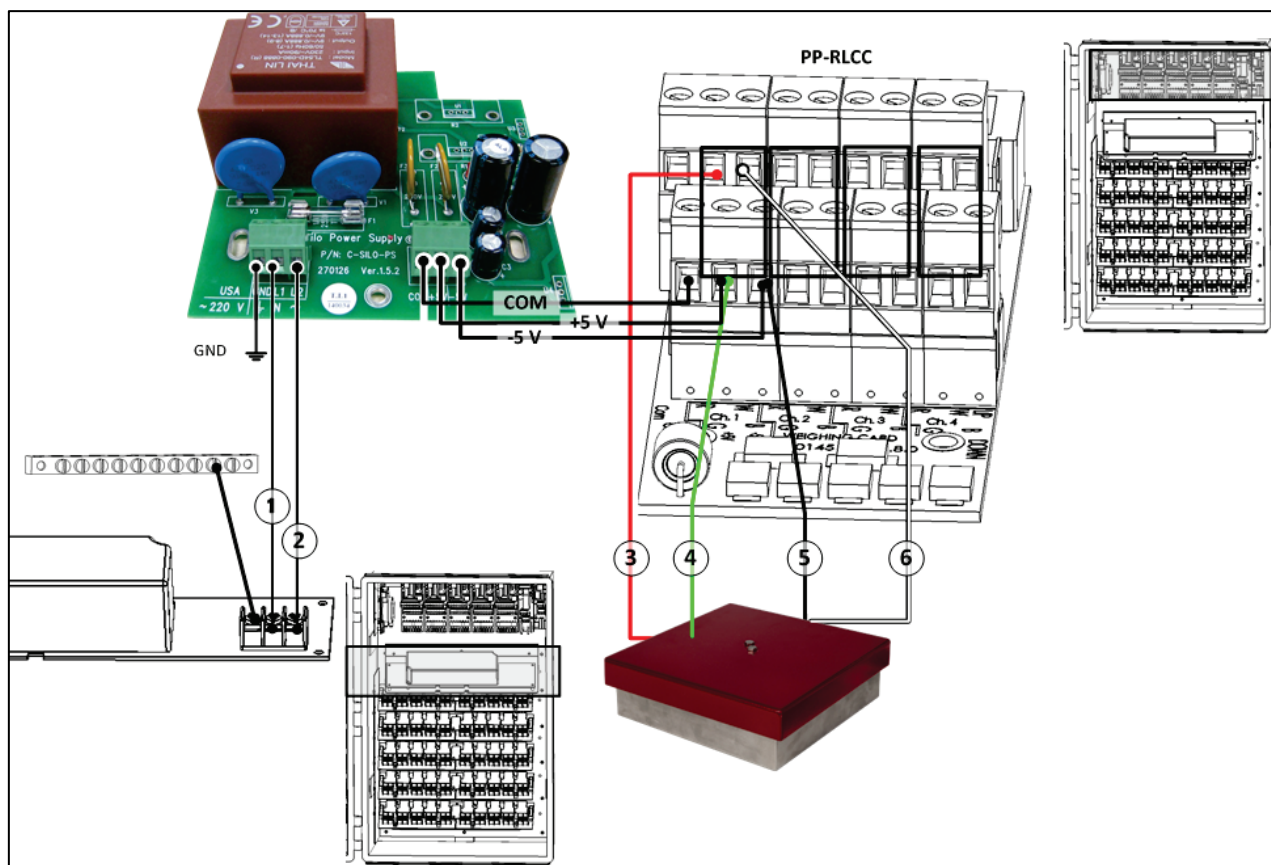


Figure 23: Farm Premium XL 50 Bird Scale Wiring

NOTE Farm Premium Pigs does not support this installation.

Figure 22 / Figure 23 key

1	Neutral (L1 USA)	4	Green
2	Phase (L2 USA)	5	Black
3	Red	6	White

7.2 Feed scale wiring

NOTE The feed software data plug is necessary only when the scale card is connected to a feed bin.

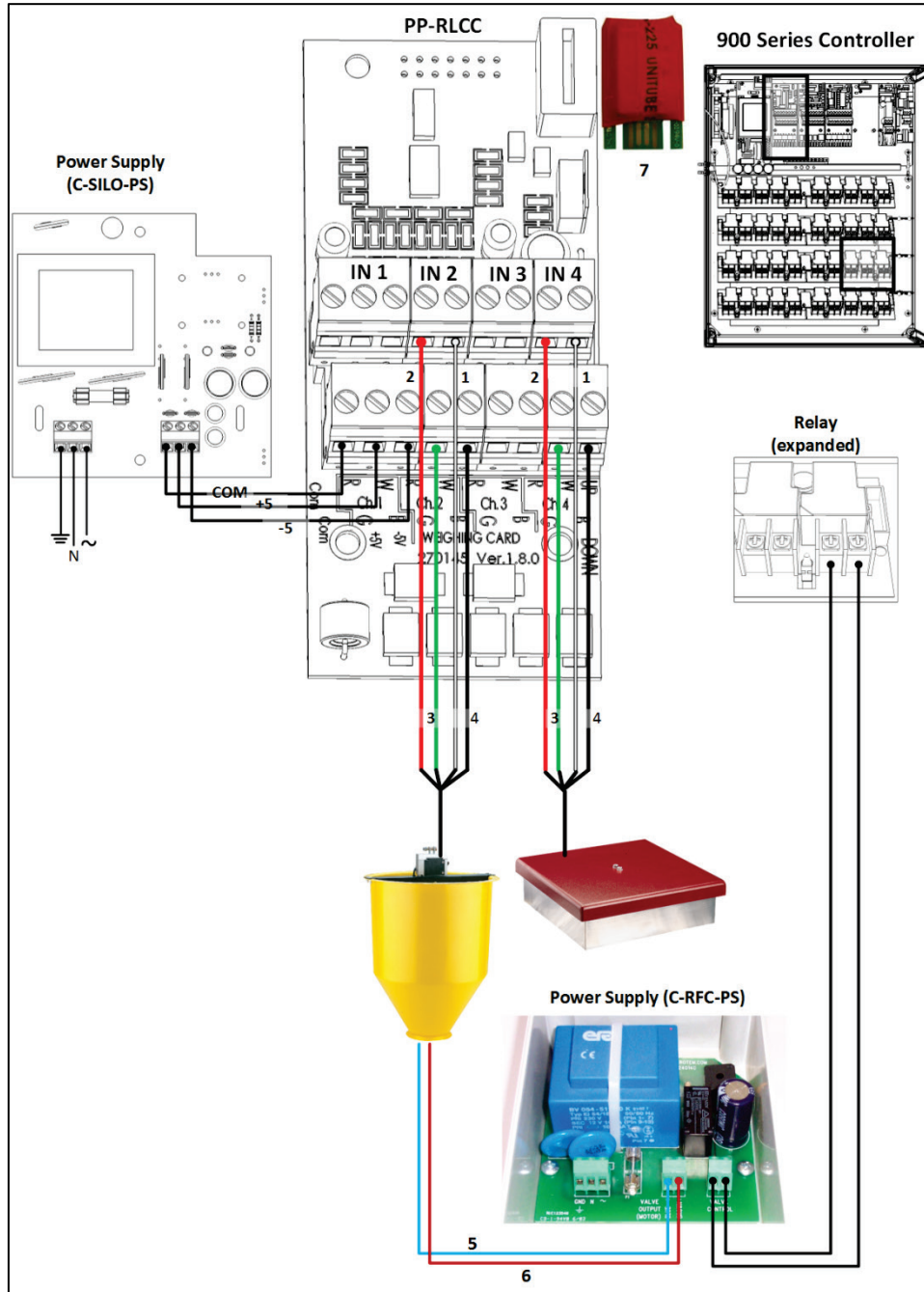


Figure 24: Feed Scale wiring diagram

Figure 22 / Figure 23 key

1	White wire	5	Blue wire
2	Red wire	6	Brown wire
3	Green wire	7	Software plug
4	Black wire		

NOTE When using an RFC-1, swap between the red and white wiring. The feed scale's red wire goes to the RLCC-4's white port and the feed scales white wire goes to the red port.

NOTE Farm Premium Pigs does not support this installation.

7.3 Silo scale wiring

- Connect an external power supply and move the jumper to the EXT position.

○ Bird scales:
Bird scale power supply

○ Silo scales:
Silo power supply

○ Bird and silo scales:
Silo power supply

NOTE Farm Premium Pigs does not support bird scales.

NOTE The feed software data plug is necessary only when the scale card is connected to a feed bin. Munters recommends using the same power feed for the silo power supply and the controller; meaning that if you turn off the controller, the silo power also turns off.

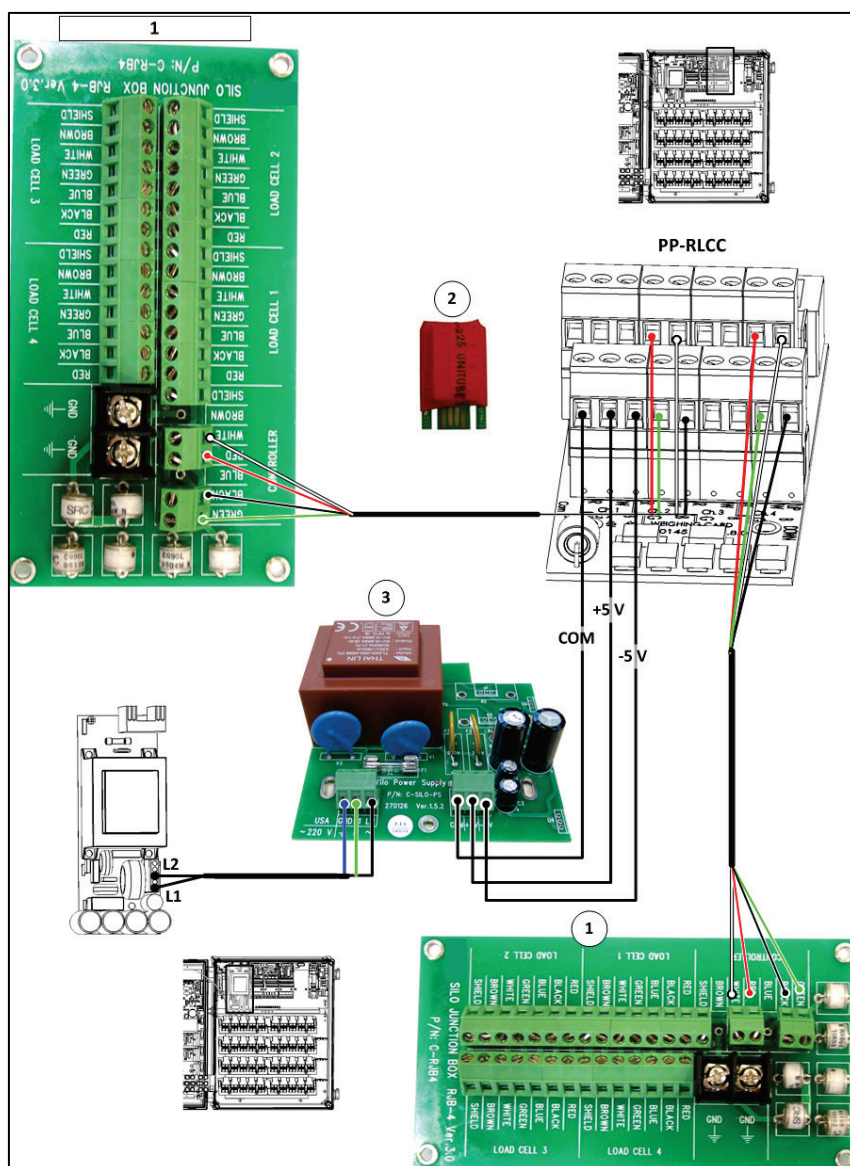


Figure 25: Farm Premium Silo Scale wiring diagram

8 Low voltage wiring

The following section details the:

- Analog input wiring, page 32
- Weather station wiring, page 37
- Farm Premium digital input /analog output, page 38
- Farm Premium-P Digital input /analog output, page 42
- Alarm Card wiring, page 43
- Communication card wiring, page 45

8.1 Analog input wiring

The Farm Premium Controller can contain a maximum of two analog input cards (P/N: C-PP-RAIC-11). Each card consists of 11 inputs; a total of 22 analog inputs are available per controller. The analog input card enables defining each input's function using jumpers.

The card supports the following options:

- Inputs 1 – 5
 - Temperature sensors

See Analog input wiring diagram for temperature sensors, page 33

- Inputs 5 – 6
 - Temperature sensors
 - CO2 sensor

See Analog input wiring diagram for CO2 and light sensor, page 34

- Inputs 7 – 9
 - Temperature sensors
 - Humidity sensors
 - Potentiometers

See Analog input wiring diagram for potentiometers, page 35

- Input 10
 - Humidity sensor

See Analog input wiring diagram for humidity or wind direction, page 36

- Input 11
 - Wind direction sensor

See Analog input wiring diagram for humidity or wind direction, page 36

The analog input cards include of surge and lightening protection circuits and do not require additional external protections.

NOTE *Use 22 AWG or lower, shielded cable only! Connect the shield to the safety ground in the Farm Premium Controller.*

8.1.1 Analog input wiring diagram for temperature sensors

Connect the temperature sensor to an input, T1-T6, and to a COM port.

- **Terminals 1 - 4:** These inputs are for Temperature Sensors only.
- **Terminals 5 & 6:** To use for temperature sensors place jumper on TEMP position as illustrated.

NOTE Every COM input will be correct and more than one sensor may be connected to a COM input.

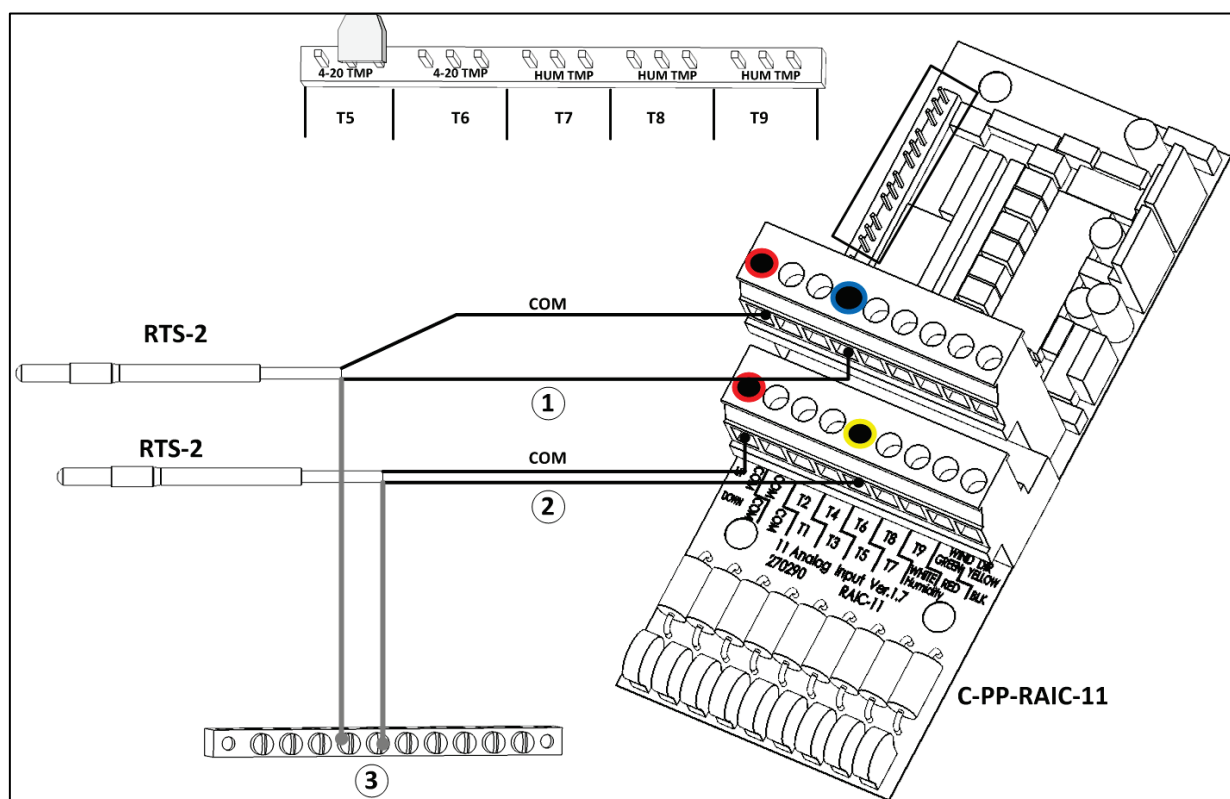


Figure 27: Temperature Sensors wiring

Figure 27 key

1	Terminal 4 input	3	Shield wire connected to ground strip
2	Terminal 5 input		

8.1.2 Analog input wiring diagram for CO₂ and light sensors

- **Terminal 5 & 6:** Connect the CO₂ / Light Sensor to input T5-T6 and to a COM. Place the jumper on the 4 - 20 mA position as required.

NOTE A jumper must be on 4 - 20 mA position with corresponding terminal

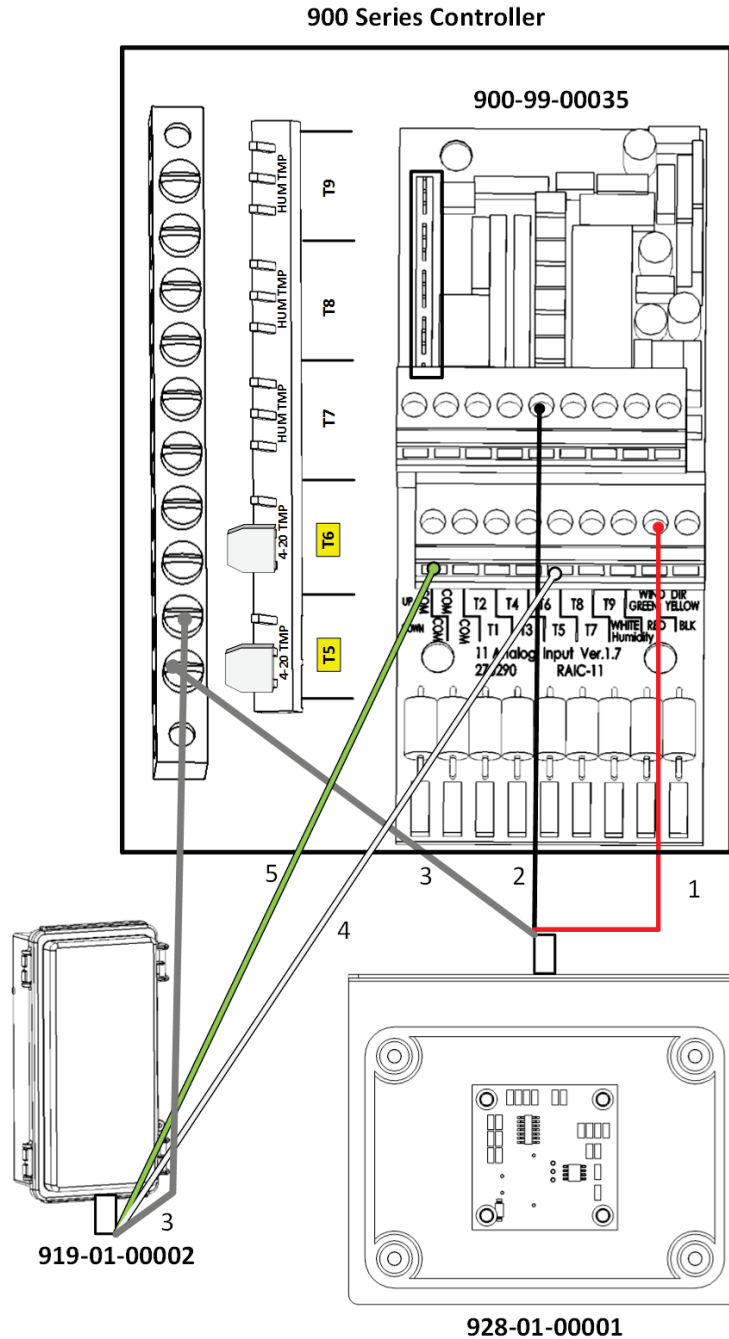


Figure 28: Light and CO₂ Sensors wiring

Figure 28 key			
1	Red wire		White wire (T5/T6)
2	Black wire (T5/T6)		Green wire (COM)
	Shield wire		

8.1.3 Analog input wiring diagram for potentiometers

- **Terminals 7, 8, and 9:** To use as potentiometers remove jumpers from positions 7, 8 and 9.
 - The potentiometer's value should be 10 - 20 kOhm.
 - No jumpers on the terminal are connected to the potentiometer.

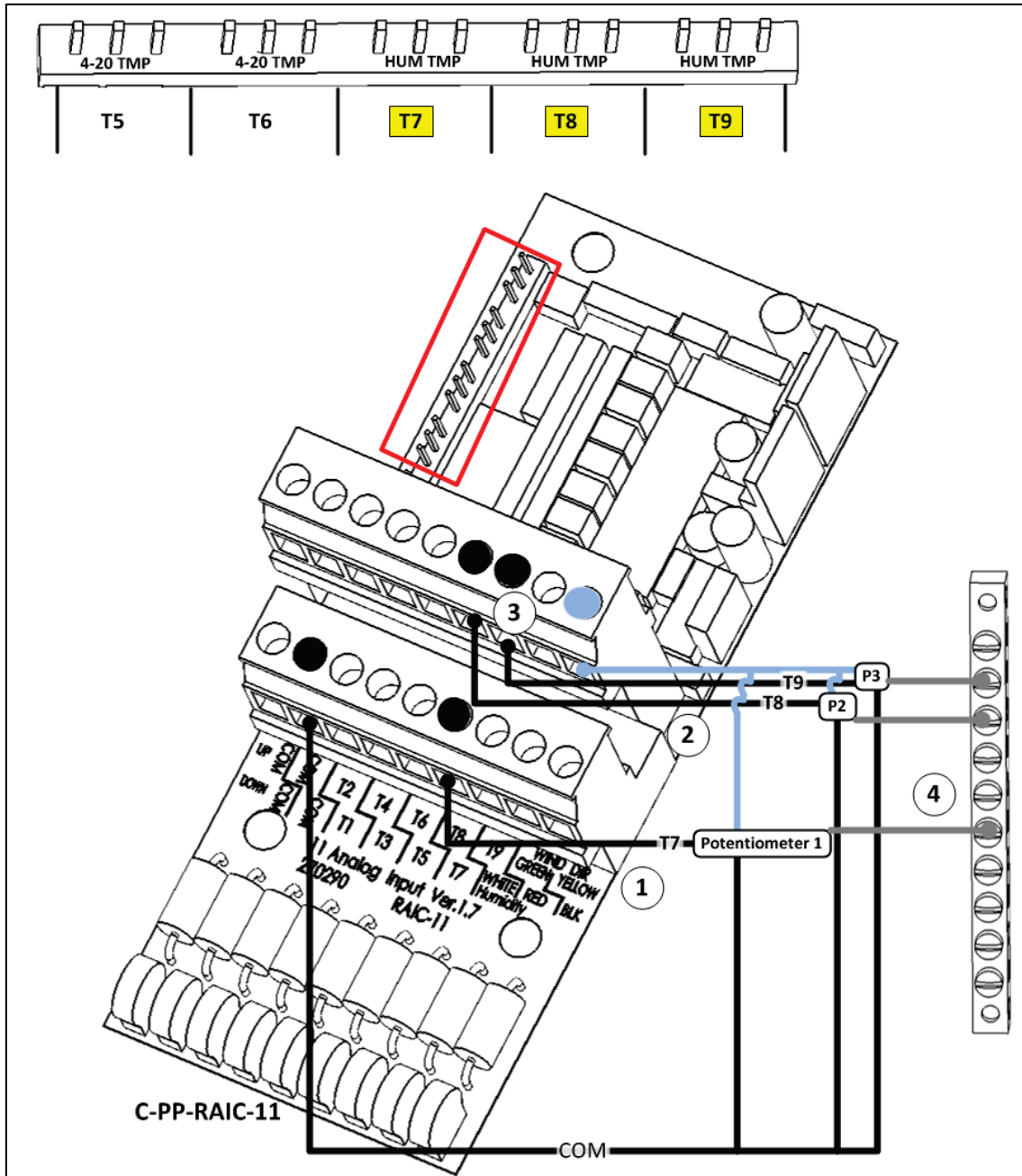


Figure 29: Potentiometer wiring

Figure 29 key

1	Terminal 7 input	3	Terminal 9 input
2	Terminal 8 input	4	Shield wire connected to ground strip

8.1.4 Analog input wiring diagram for humidity or wind direction sensors

- **Terminal 10: Humidity sensor:** Connect according to the color code on the PCB.

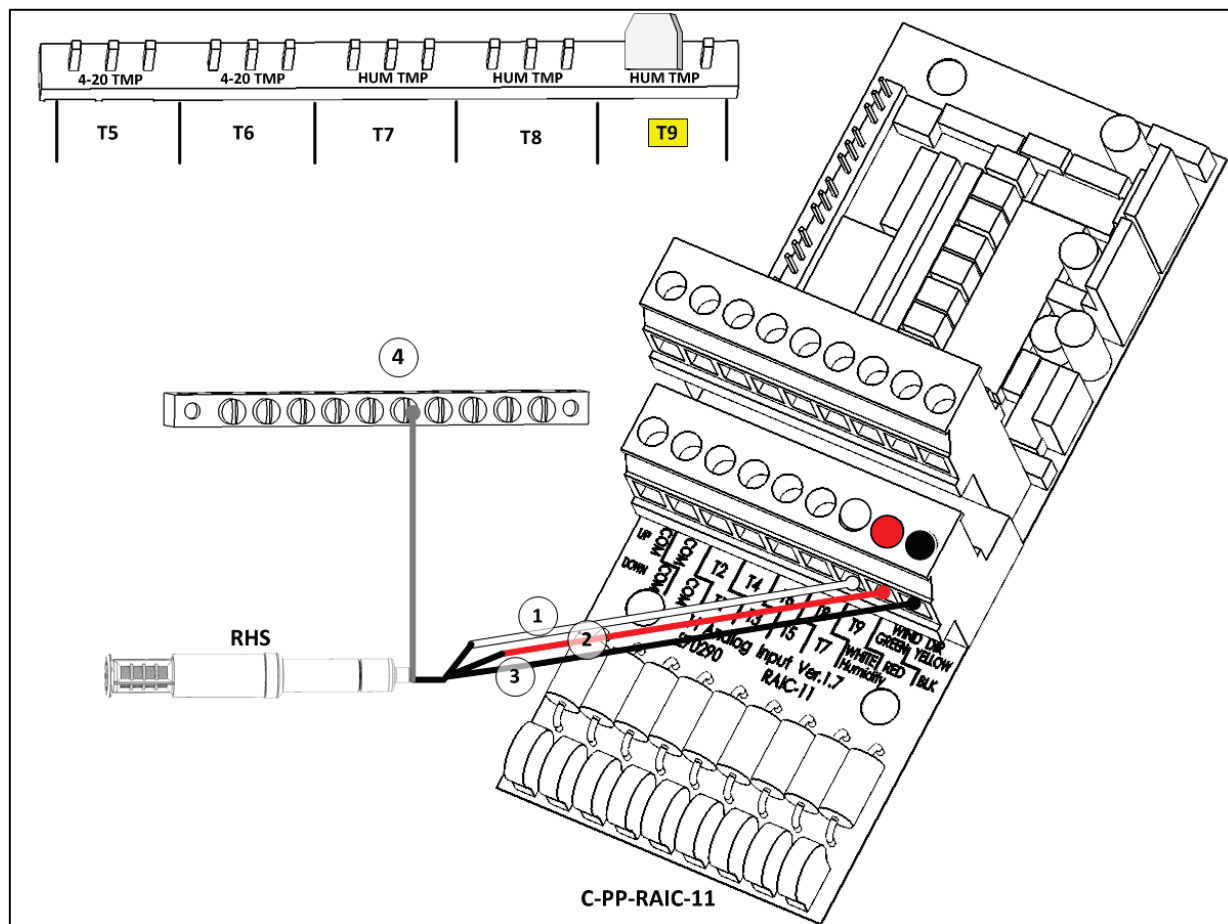


Figure 30: Humidity Sensor Wiring

Figure 30 key			
1	White wire	4	Green wire
2	Red wire	5	Yellow wire
3	Black wire		

NOTE To enable a second sensor, on Terminals 7, 8, or 9 place jumper on the HUM position (see the previous section). In the Install > Analog Sensor menu, designate the slot as a humidity sensor.

8.2 Weather station wiring

- **Terminal 11: Wind direction sensor:** Connect according to the color code on the PCB (setup in **Service > Analog Sensors**)

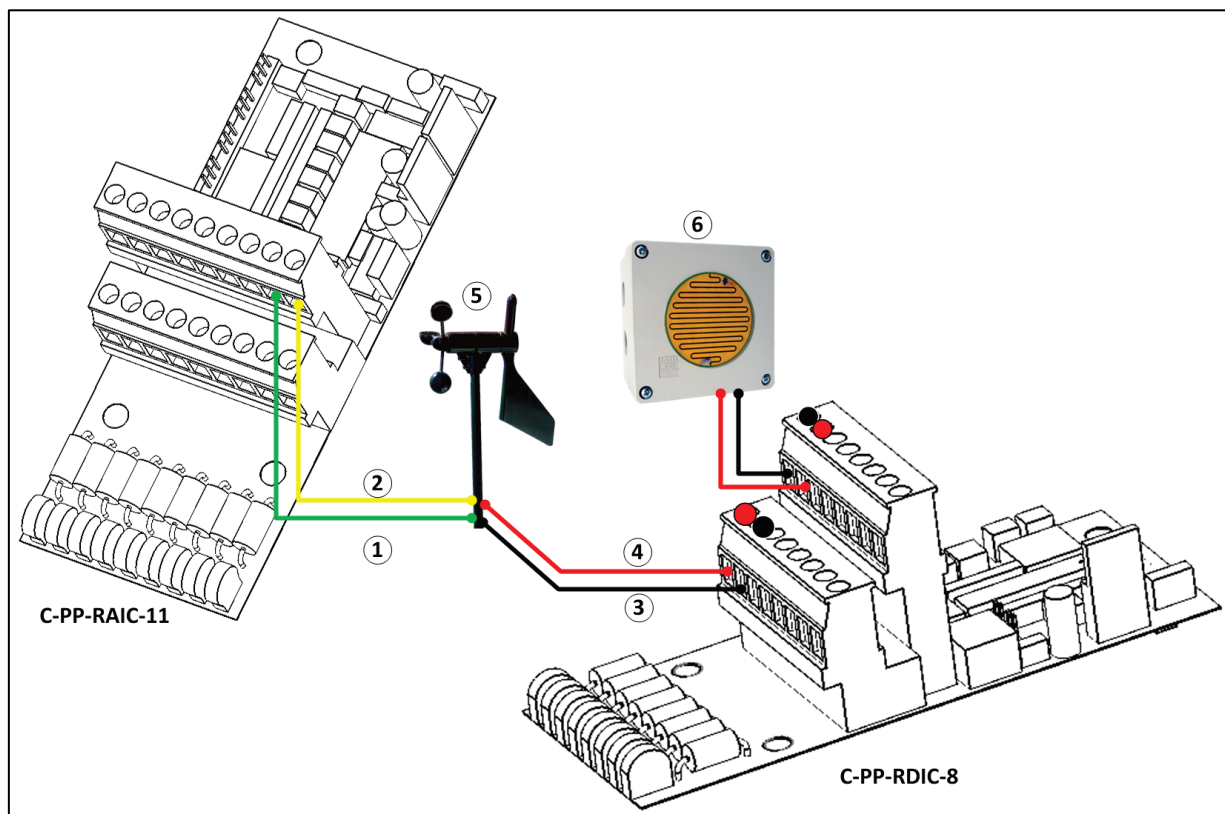


Figure 31: Weather station wiring

Figure 31 key			
1	Green wire	4	Red wire
2	Yellow wire	5	Wind direction sensor
3	Black wire	6	Rain gauge

- The wind direction and speed (Yellow, Green) is connected to **Input 11 only** and is setup in Menu 8.3 - Analog Sensors.
- Connect the Wind Sensor to any available input and set the input correspondently in the software (Menu 8.4 - Digital Sensors).

NOTE If the Speed Sensor is not used; connect the Red wire to the COM entry of the Analog Input Card.

8.3 Farm Premium digital input /analog output

The following sections detail:

- Farm Premium digital input wiring
- Farm Premium analog output wiring
- Combo Card wiring

NOTE For information on the Farm Premium-P wiring, refer to Farm Premium-P Digital input /analog output, page 40.

8.3.1 Farm Premium digital input wiring

The Farm Premium has a digital input card (P/N: C-PP-RDIC8) with eight inputs which measures digital sensors. Each input consists of a pair of ports:

- **Left port:** Common
- **Right port:** Signal input

It is possible to connect the common of several sensors to the same connector. However Munters recommends spreading the commons in an even manner. The digital input card includes surge and lightning protection circuits and does not require external protection.

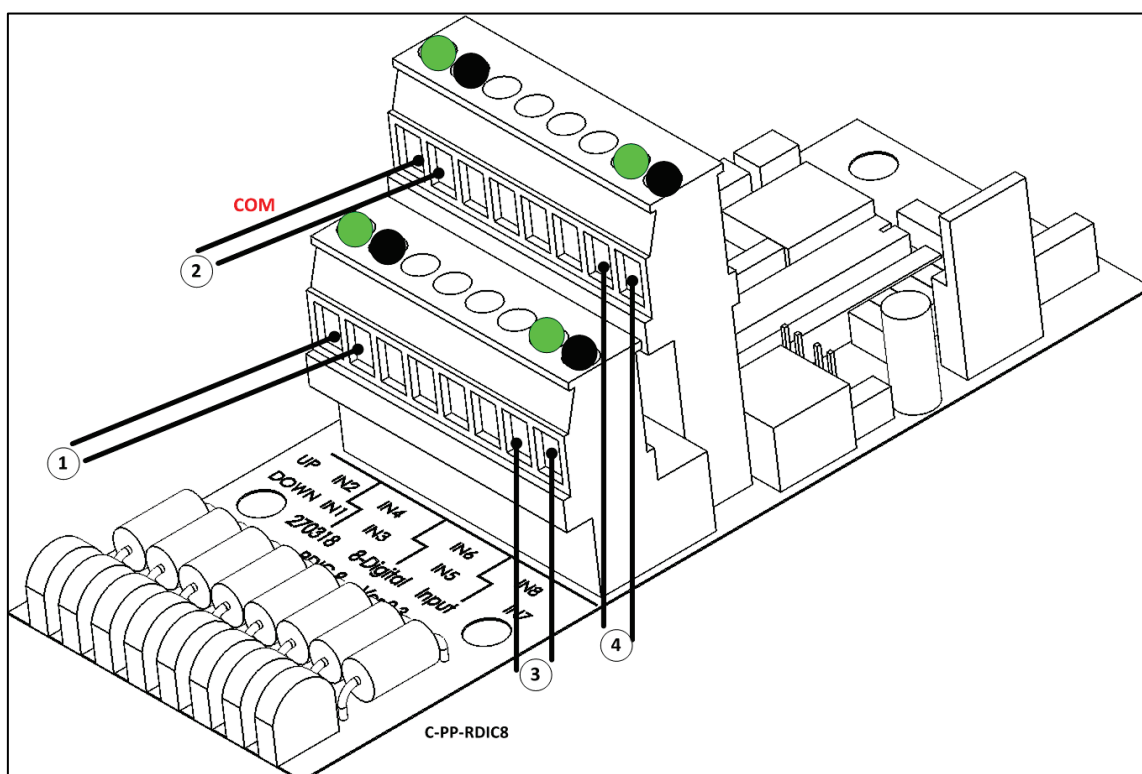


Figure 32: C-PP-RDIC8 wiring

Figure 32 key		Examples
1 - 4	Input signals	Auxiliary Alarm
		Water Meter
		Auger Overtime
		Feed Counter

8.3.2 Farm Premium analog output wiring

The Farm Premium has an analog output card (**C-PP-RAOC8**) with eight outputs, which drive external units controlled by 0 – 10 VDC. The analog outputs card consists of surge and lightening protection circuits and does not require external protection.

NOTE Version 5.0X supports two analog output cards.

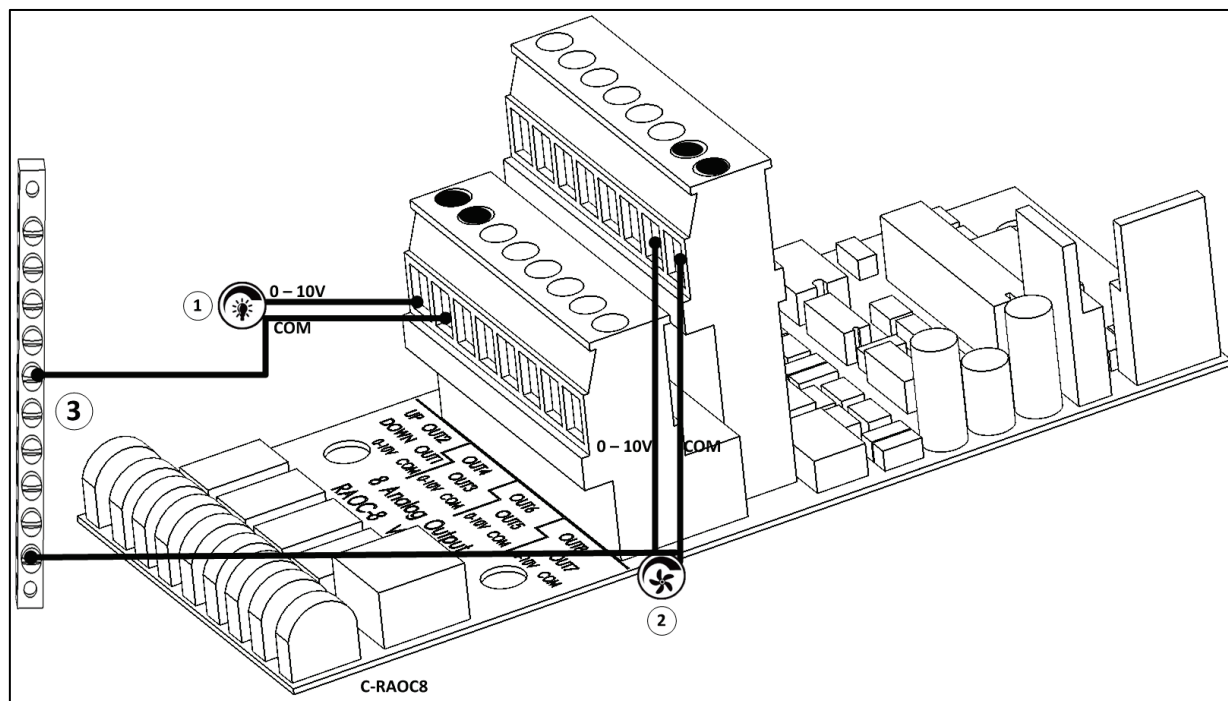


Figure 33: C-RAOC8 wiring

Figure 33 key		Examples
1	Output 1: Light dimmer	Variable Speed Fans
2	Output 8: Variable speed fan	Stir Fans
3	Shield wire to ground	Light Dimmer

NOTE The above drawing is only an example of many possible wiring diagrams. Your particular installation may differ.

NOTE Users employing the Advanced Analog Input Card: refer to Appendix 1: Advanced Analog Input Card, page 55.

8.3.3 Combo Card wiring

The Farm Premium supports a Combo Card (**P/N: PPJ-COMBO**) which consists of:

- **x8:** Digital input card which serves as a general purpose digital input card for dry contact input such as water pulse, feed pulse, fertilizer pulse, etc.
- **x4:** Analog output card used to drive external units controlled by 0 – 10 VDC.

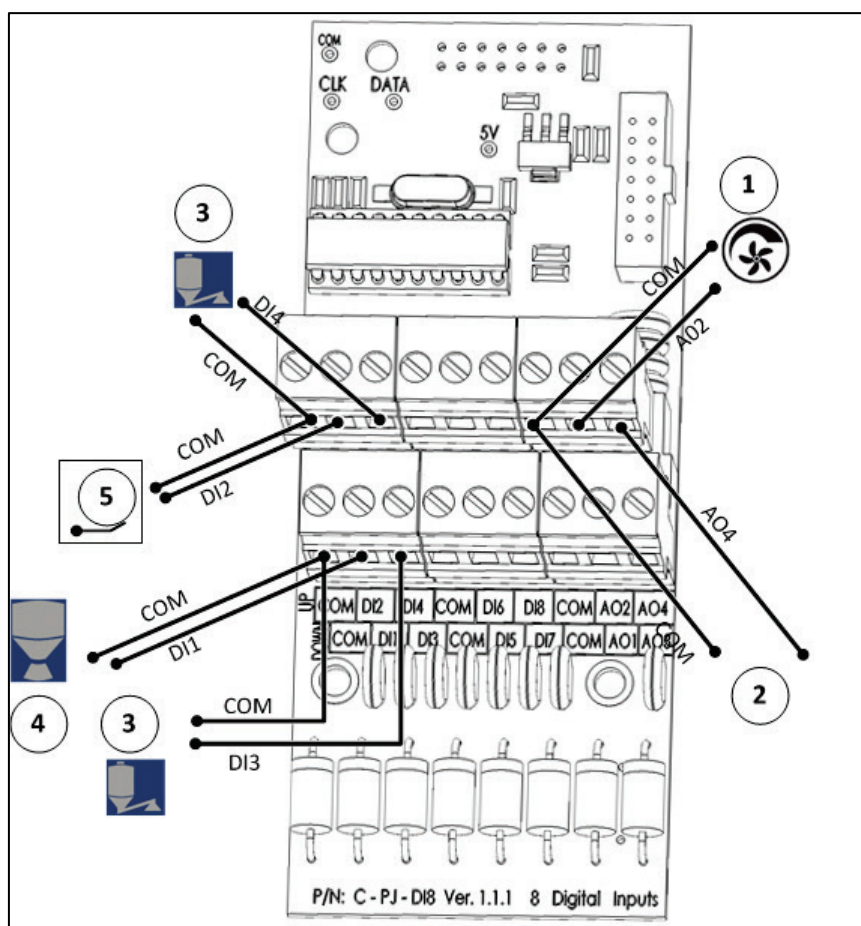


Figure 34: C-PPJ-COMBO wiring

NOTE The digital inputs and analog outputs shown in Figure 34 are examples only.

Figure 34 key

1	Variable fan	4	Feed counter
2	Light dimmer	5	Water meter
3	Auger overtime		

8.4 Farm Premium-P Digital input /analog output

The following sections detail the:

- Farm Premium-P digital input wiring
- Farm Premium-P analog output assembly

NOTE Users requiring eight digital inputs and four analog outputs can install a Combo Card (page 39).

8.4.1 Farm Premium-P digital input wiring

The Farm Premium-P has a digital input card (P/N: C- PPJ-DI8) with eight inputs which are used to measure digital sensors. The new card provides all the services of the Farm Premium Digital Input Card (P/N: C-PP-RDIC8) while enabling a simple upgrade that adds four analog output ports (refer to the following section).

It is possible to connect the common of several sensors to the same connector. However Munters recommends spreading the commons in an even manner. The digital input card includes surge and lightning protection circuits and does not require external protections.

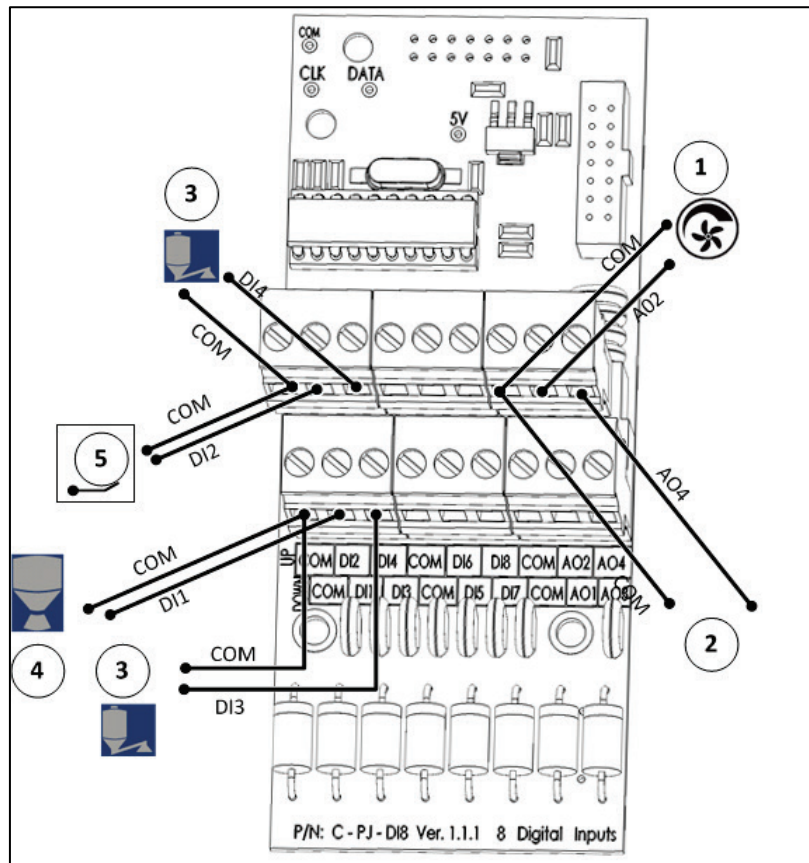


Figure 35: C-PPJ-DI8 wiring

NOTE The digital inputs and analog outputs shown in the figure above are examples only.

Figure 35 key			
1	Variable fan	4	Feed counter
2	Light dimmer	5	Water meter
3	Auger overtime		

8.4.2 Farm Premium-P analog output assembly

By adding a Combo Analog Output Card (**P/N: P-PPJ-AO4**) to the digital input card, you can add four analog outputs.

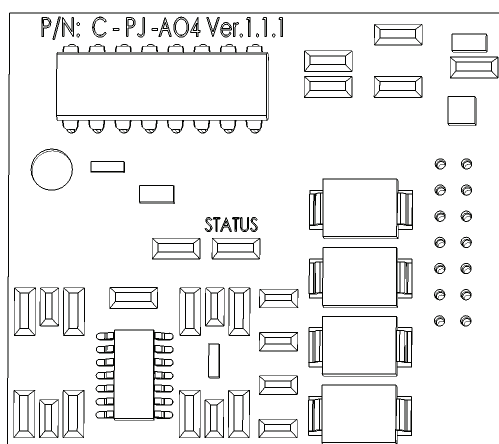


Figure 36: P-PPJ-AO4 card

NOTE Users requiring eight analog outputs should install an Analog Output Card (C-PP-RAOC8).

To assemble the card:

1. Place the Combo Analog Output Card on the Digital Input Combo Card as shown in the following illustration.

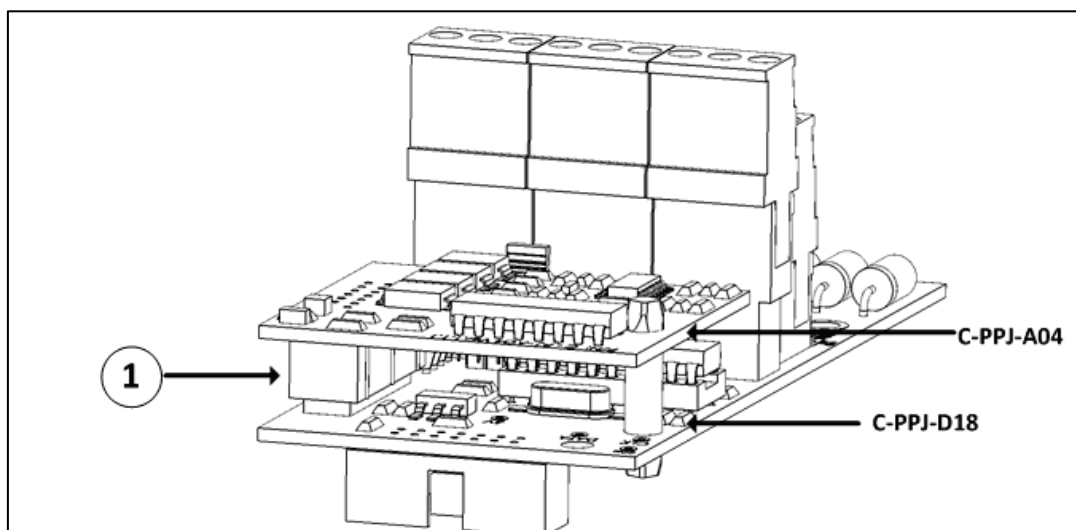


Figure 37: Card assembly

Figure 37 key

1	Male/female ports
---	-------------------

2. Gently press the Analog Output Card down until the connectors snap in place.
3. In the Farm Premium menu, go to *Test > Hardware Checklist*.
4. Verify that *Analog Output* is checked (Figure 38).

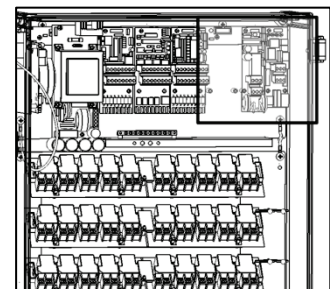
HARDWARE CHECKLIST		
Description	Found	Relays
Analog Input	✓	
Digital Input	✓	
Analog Output	✓	
Scales	✓	
Static Pressure	✓	
Alarm	✓	
N.C. Emergency Card	1	5
N.O. Switch Card	7	35
N.C. Switch Card	0	0
Vent Board/Curtain Card	0	0

Figure 38: Hardware checklist

8.5 Alarm Card wiring

Munters' Alarm Card (C-PP-RALC-2) provides integrated lightning protection for a single alarm device of up to 430 Volts DC. If you need to protect more than one device, use **Munters' P-RLVP** to protect low voltage devices or the **RPLP** for line voltage devices.

NOTE The Farm Premium, Farm Premium-P XL, and XL-50 support this card. The Premium-P Controller *does not* support this card.



The following sections detail the:

- Normally Open alarm system, page 43
- Normally Closed alarm system, page 44
- Siren wiring diagram , page 45

8.5.1 Normally Open alarm system wiring

Suggested alarm system connection: To provide lightning protection to the alarm, install the blue wires using the same terminals as the alarm device.

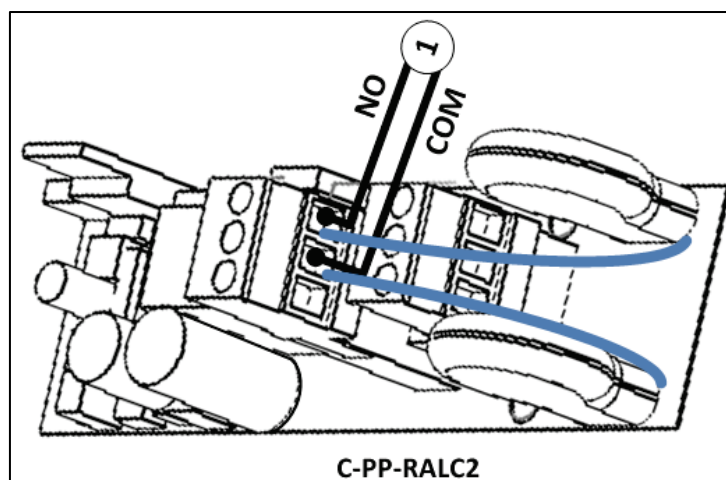


Figure key

1	Alarm system
---	--------------

The alarm card provides NO (Normally Open) and NC (Normally Closed) connections on two independent terminals. Connect the protection wires to the terminal with the most critical device if you use more than one device.

8.5.2 Normally Closed alarm system wiring

In a NC wiring system, an alarm dialer is connected to the NC and COM terminals on the upper connector. The protection wires protect the dialer and the alarm card.

NOTE The alarm relay is held so the NC connections are open and the NO connections are closed when there is NO alarm. This feature provides automatic power fail alarms if the system loses power to the alarm card.

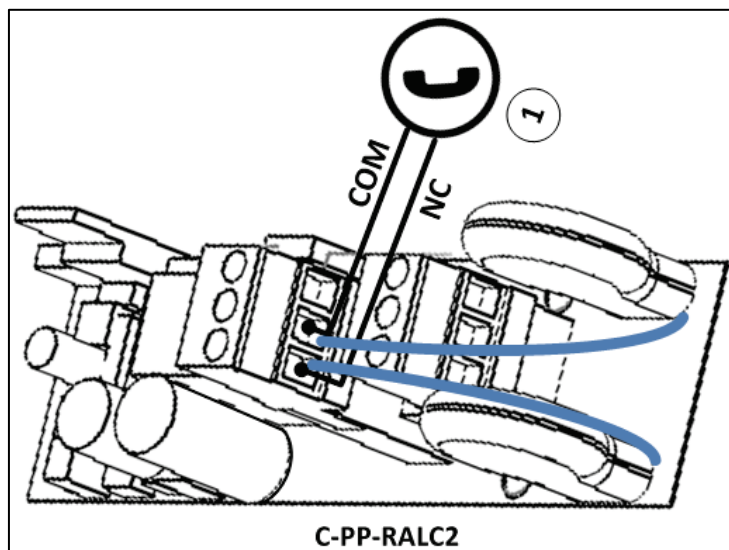


Figure key

1	12V dialer
---	------------

NOTE The blue wires are lightning protection wires. Connect the blue wires to the terminal requiring protection together with the device, such as an alarm dialer.

8.5.3 Siren wiring diagram

You can use the protection for other devices, such as a simple siren. If you need to protect more than one device, use Munters' **P-RLVP** to protect low voltage devices or the **RPLP** for line voltage devices.

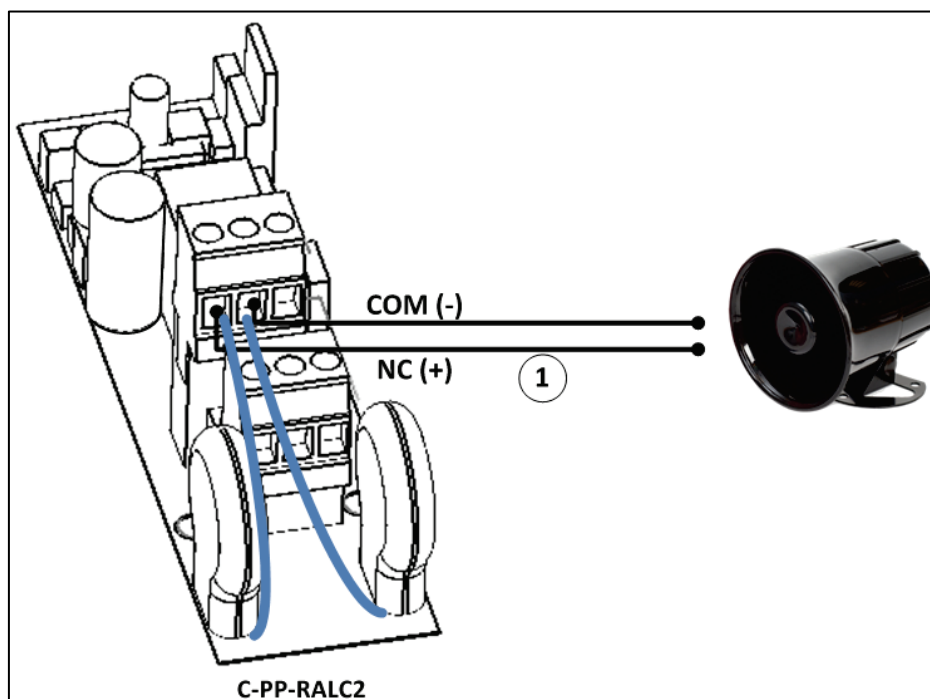


Figure key

1	12V dialer
---	------------

8.6 Communication card wiring

The communication option provides a means to connect a local PC or a remote PC via a modem.

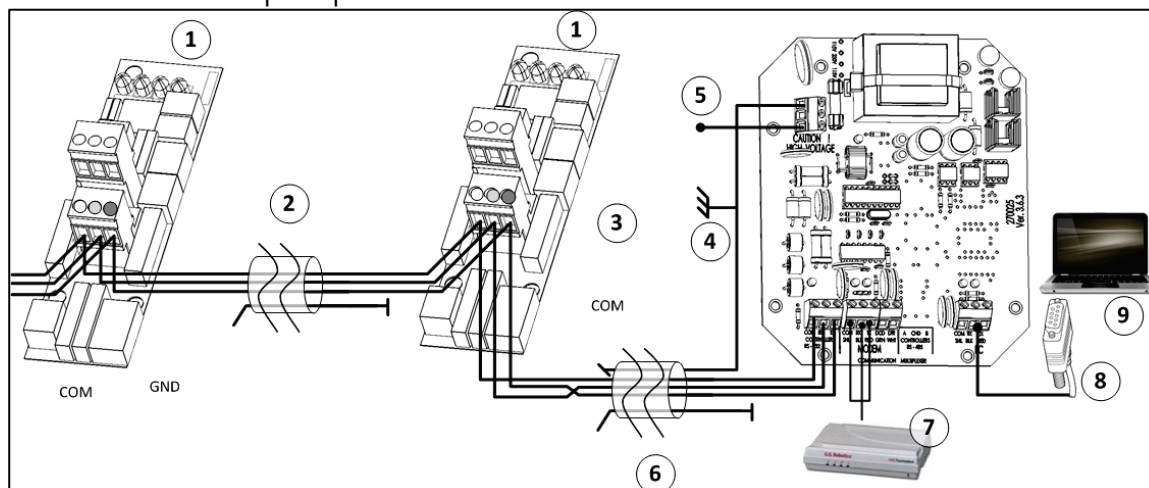


Figure 39: Controller - MUX RS-232 Wiring

Figure 39 key

1	Communication card	6	See Table 1
2	Long distance	7	Modem (priority channel)

Figure 39 key

3	Connect the cable shields only at 1) one end of every cable 2) one end of each house	8	COM 1, 2
---	--	---	----------

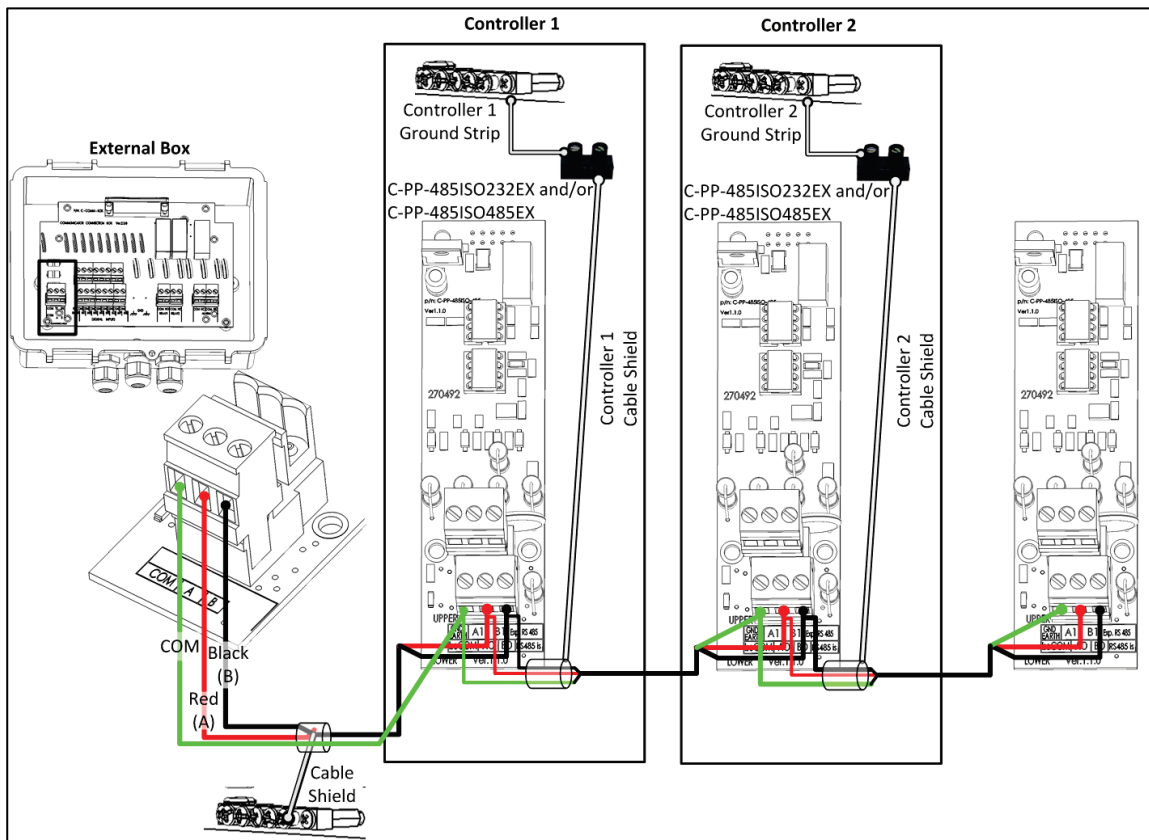


Figure 40: Controller - Farm Guard Isolated RS-485 Wiring

NOTE When deploying an RS-485 infrastructure, Munters strongly recommends using an Isolated RS-485 communication card.

Table 1: Controllers vs Distance

One Controller		10 Controllers	
2000 meters	9600 baud	1200 meters	9600 baud
2500 meters	4800 baud	1800 meters	4800 baud
3000 meters	2400 baud	2400 meters	2400 baud

9 Electrical Grounding

CAUTION Always connect temperature and sensor shields to earth ground. Avoid mixing high voltage wiring with sensor and low voltage wiring. Keep the controller as far as possible from heavy contactor boxes and other sources of electrical interference.

9.1 Ground Rods

Ground rods are used to efficiently connect the system to earth where current may be dissipated in the soil.

- **Material:** Ground rods should be copper clad or galvanized steel.
- **Diameter:** Minimum 5/8", preferably 3/4". Generally the larger the rod diameter, the lower it's resistance to current flow.
- **Length:** Minimum 2.5 meters (8 feet), preferably 3-meter (10-foot). A longer ground rod will reach a soil with higher moisture content. Moist soil carries current much better than drier soil.
- **Single grounding:** It is important that there is only one grounding location where a rod or series of rods are connected to each other using a ground wire.
- **Independent ground rods** will increase the risk of current, from a lightning strike for example, being dissipated through one rod and reentering the system through an adjacent rod.
- **Location:** Close to the main circuit breaker panel and in moist soil. For example in an area that is usually wet from a drip or a low spot where water drains. Make sure the area is well protected from damage by lawnmowers, tractors, etc'.
- **Rod installation:** Drive the rod into the earth until about 10 cm (4 inches) is left above grade. If it is impossible to drive the rod to the proper depth, it is acceptable to lay the rod horizontally, 80 cm (2.5 feet) below grade.

In case the rod is exposed to damage, for example by lawnmowers or tractors it can be installed in a hole, about 20 cm (8 inches) deep so that the rod is about 10 cm under grade and 10 cm above hole level.

NOTE The National Electric Code (NEC) mandates two ground rods unless you can show less than 10 ohms resistance with one rod.

9.2 Ground Wire

The ground wire is a large copper wire that connects the main circuit breaker panel to the ground rod.

- **Material:** Ground rods should be copper clad or galvanized steel.
- **Diameter:** Typically, 16 mm (6-gauge) copper wire is sufficient. If the wire run is greater than 20 feet, 20 mm (4-gauge) wire should be used.
- **Length:** Minimum 2.5 meters (8 feet), preferably 3-meter (10-foot). A longer ground rod will reach a soil with higher moisture content. Moist soil carries current much better than drier soil.

The ground wire should be protected from damage by lawnmowers, tractors, etc'. It should be buried minimum 15 cm (6 inches) under grade for protection and enter the house as soon as possible. It is important that the wire not be cut; it should remain continuous.

9.3 Ground Clamps

Ground wires should not be merely wrapped around a ground rod. Ground clamps are used to attach a ground wire to a ground rod. The most common clamp is known as an acorn clamp. Make sure the ground clamps you select are rated for outdoor use. Do not use pipe clamps rated for inside water lines or hose clamps to attach the ground wire.

9.4 What Should Be Grounded?

Any equipment that is or could become energized, even accidentally, should be grounded. Current from lightning, strikes objects in a random fashion. Accounts of lightning strikes reveal scenarios most of us could not predict.

Electric circuits should be wired with a 3-wire conductor consisting of hot, neutral and grounding wires. The grounding wire should be attached cleanly and securely to devices or systems to be grounded. The other end of the grounding wire should be attached to the ground bus on the main panel.

9.5 Lightning Protection

Because of the potential for lightning damage to electronic devices, Munters recommends supplying lightning protection on both the power supply and the communication terminals (if used).

9.5.1 Power Line Protection

The RPLP-1 provides lightning protection to the controllers. Refer to the RPLP-1 documentation for detailed wiring instructions. While no lightning protection is perfect, the RPLP-1 significantly enhances the reliability of built-in lightning protection. In addition, Munters recommends using an isolation transformer in front of the RPLP-1 to help block lightning and other transients.

NOTE: Common surge protectors provide little additional protection, and may trip unnecessarily.

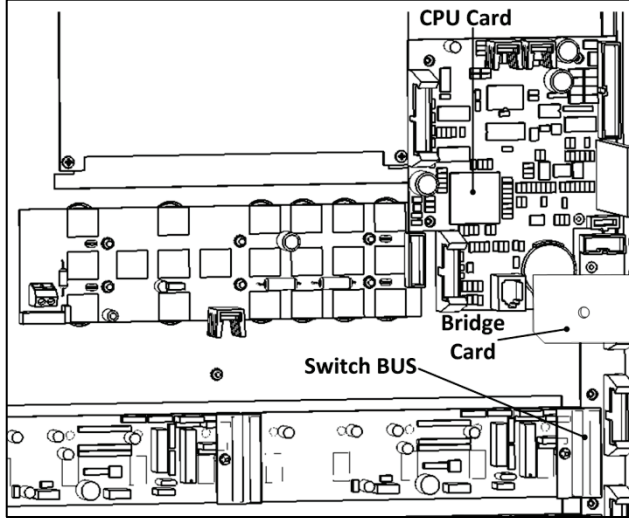
An isolation transformer preceding the RPLP-1 provides significant additional protection against lightning.

9.5.2 Communication Line Protection

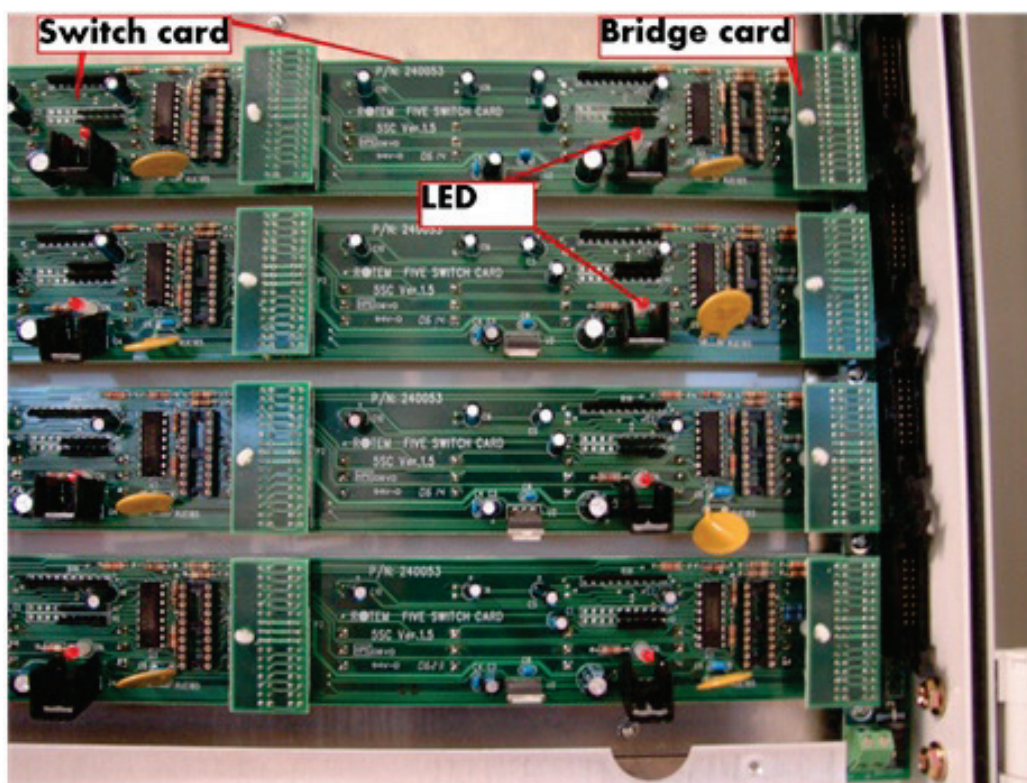
The RCLP-1 provides communication protection for the controller. Refer to the RCLP-1 documentation for detailed wiring instructions. Since outdoor communication lines can receive and conduct powerful electromagnetic pulses into the controllers and cause significant damage, Munters advises using a RCLP-1 prevent damage to the units.

NOTE: *Common surge protectors provide little additional protection and may trip unnecessarily.*

10 Troubleshooting

Display	Problem	Possible Cause	Possible Solution
Many error messages appear on the display.	Farm Premium general problem (Relays are not operating in auto mode and many error messages appear)	I/O BUS (I ² C) is stuck	Disconnect the bridge card between the CPU card and the switch bus, and check if the LED on the alarm card is blinking.  The diagram shows a top-down view of the control unit's internal components. At the top right is the 'CPU Card'. Below it is the 'Bridge Card'. At the bottom is the 'Switch BUS'. A line points from the 'Bridge Card' label to the card connecting the CPU and the Switch BUS. If the LED on the alarm card is not blinking, it means that the problem is in one of the I/O cards. In this case, the next step is to find which card is the faulty one.
		Switch Bus (I ² C) is stuck	Disconnect the bridge card between the CPU card and the switch bus, and check if the LED on the alarm card is blinking. If the LED on the alarm card is blinking, it means that one of the switch cards (or the switch bus itself) caused the I²C bus problem. In this case, the next step is to find which switch card is the faulty one.

Display	Problem	Possible Cause	Possible Solution
LEDs in the switches and alarm cards are not blinking	One of the switch cards holds the I ² C Bus	Faulty switch card	1. Return the jumper between the CPU and the switch bus. 2. To find which card holds the I²C BUS, disconnect an entire line (2 switch cards) by removing a bridge card. 3. See if the switch cards on the other lines start blinking: • If they start blinking it means that you removed the faulty line (one of the cards is faulty). • If not, return the bridge back and disconnect another line (repeat this procedure until you find the faulty line (one of the two switch cards is faulty). 4. Find out which of the two is faulty and replace it.



Display	Problem	Possible Cause	Possible Solution
LEDs in the switches and alarm cards are not blinking	One of the I/O cards holds the I ² C Bus	Faulty I/ O card (Analog Input, Analog Output, Digital Input, Load Cell Card)	1. Disconnect all of the input/output cards (Analog Input, Analog Output, Digital Input, Load Cell Card) one by one and check if the Alarm Card LED start blinking (or the sensors are read correctly). 2. If you can't find the faulty card this way, use a known spare card to check if CPU recognizes it. If not, replace the CPU card. 3. Check that all the jumpers and flat cables between the cards are properly installed and plugged into the right place.
NOTE <i>Check that all the bridges and flat cables between the cards are properly installed and plugged into the right place.</i>			
LED in the switch card is off	One of the switch cards and its related relay card are not working at all.	A short in one of the relays coil. Short activates a thermal fuse on the switch card.	Replace the relay card. If the problem persists replace the switch card as well.
Fail message in the Sensors List in the Main Screen	Temperature sensor shorted	Short circuit in the related sensor entry	1. Measure the voltage of the right temperature sensor (according to the number from the sensor list) and check if the voltage is close to zero (normally it should be around 2.5 V). 2. If it shows 0 volts, disconnect the sensor and connect an ohmmeter between the black and red wires of the sensor. Check if there is 30 KOhm (at 25° C). If the temperature is higher than 25° C the resistance should be lower than 30 KOhm, and vice versa. 3. If the resistance is too low, then replace the sensor (the resistance should be around 30 KOhm at 25° C or 15 KOhm at 40° C).
	Temperature sensor opened	Open circuit in the related sensor entry	1. Check if the sensor is properly connected to the right terminal (according to the number from the sensor list). 2. Measure the voltage of the temperature sensor and check if the voltage is close to 5 V (normally around 2.5 V). 3. If it shows 5 V, disconnect the sensor and connect an ohmmeter between the black and red wires of the sensor. Check if there is 30 kOhm (at 25° C). If the temperature is higher than 25° C the resistance should be lower than 30 KOhm, and vice versa. 4. If the resistance too high than replace the

Display	Problem	Possible Cause	Possible Solution
			sensor (resistance should be around 30 KOhm at 25° C or 100 KOhm at 0° C).
	Temp Sensor User Err	Sensor defined in Temp Definition but not in Analog Sensor Installation	Define sensor correctly.
	No readings from a digital input.	Faulty digital input card	1. Enter into the test state and you will see a list of eight inputs. 2. Disconnect the wires from the input you want to check and see that it shows '0'. If it shows '1' then the input is faulty and the card should be replaced (or try to use some other input if there is a free one). 3. Check that when you create a short on the input, the '0' changes into '1'. If it doesn't then the input is faulty and the card should be replaced.
Analog Input Fail	Fail message in messages list on main screen	Missing or faulty analog input card	1. Check that the analog input card is connected properly. 2. If it is properly connected and the problem still exists, replace the analog input card.
Scale Card Fail	Fail message in messages list on main screen	Missing or faulty scale card	1. Check that the analog input card is connected properly. 2. If it is properly connected and the problem still exists, replace the analog input card.
Clock Fail	Clock failure	Malfunction of the clock circuit on the CPU card	Replace the CPU card.
Bird Scale 1 (or 2) Failure	The Farm Premium does not read correctly the bird scale input (1 or 2).	Faulty bird scale or bad connection to the Farm Premium	1. Check that the wires are connected properly to the scale card entry. 2. To isolate the problem change the connections between entry #1 and entry #2. If the message of the Farm Premium remains with the same number, it means that the entry of the scale card is faulty. If the number in the message changes, it means that the scale (or the cable) is faulty.

Display	Problem	Possible Cause	Possible Solution
Scale card missing	Fail message in messages list on main screen	Missing scale power supply	The reason for this problem may be either a card malfunction or scale power supply failure. Check the voltage between the green and black wires. The reading should be 10 V. If the reading is not 10 V replace the external power supply. In the power supply there are also two status LEDs +5 V and -5 V that should be lit. If the power supply functions properly: 1. Enter the test scale menu and check the A/D readings. The pulse should increase when pushing the plate. If the readings decrease switch between the red and white wires on the scale card. 2. Disconnect the load cell from the scale card and test resistance on points on the load cell. • If the readings do not match the required values, replace the load cell in the platform. • If in the Scale Test menu the controller displays "N/A" for STATUS and the A/D count is 65,536, a higher reading, or 0, then a voltage measurement will be required in order to identify the cause of the problem. 3. Check load cell receives voltage from the controller's green and black wires. The voltage should be approximately 10 DCV. • If the load cell is not receiving voltage, check that the wires are connected properly on the controller side. • If there is a 10 DCV, the load cells must be checked. 4. Take the Red and White wires from the load cell and check their voltage using a DVM on DCV range 200 mV or Auto range. The range of voltage should be between 0 to 20 mV, depending on bird scale load (more than 20 mV indicates a bad load cell). There are some cases when the prior test is not effective and the voltage between the Green and White wires and the Red and Green wires must be checked. (The amount of voltage <u>must</u> be between 4.4 - 5 V).
Fail message during calibration procedure:		Faulty scale card	
Disconnected Channel!!!		Wired incorrectly or disconnected wire	
Undefined channel!!!			

Display	Problem	Possible Cause	Possible Solution
Analog Output Missing Light Dimmer LED blinks at a certain percentage	Analog output card disappears (caused by noise interference) or Light Dimmer LED blinks at a certain %		Test the outputs voltage, insert a certain voltage, for example 5 V and check if the output produces 5 VDC (+ and - 5%). Make sure you are checking the same output that you programmed. Repeat the test with 10 VDC (+ and - 5%). Check all eight outputs the same way. If one of the outputs is producing a different voltage, replace the card.
Pressure Sensor Fail	Incorrect pressure measurements		1. Disconnect the plastic tubule from the Farm Premium to verify zero pressure. 2. Enter the pressure calibration table and check the A/D counts on the top part of the screen. If they are not set to 130 use the blue trimmer on the pressure card to change them to 130. 3. If the trimmer does not change the A/D counts, replace the pressure card. 4. Software calibration can also be used to calibrate to zero pressure when in the range of 130 ± 40 A/D reading.
System Message 100	Reset		
System Messages 101-105		Might occur as a result of electrical noise (lightning, motors, etc.)	
System Message 762	A malfunction that is related to one of the relay cards	Faulty switch card	1. Check that the small jumper card (that is connected to the switch card) is properly connected. 2. Check that the chip on socket is properly connected. 3. Replace the faulty switch card (the Alarms history will display the exact failure card).
		Faulty relay card	1. Check the flat cable (between the switch card and the relay card) that is properly connected. 2. Replace the faulty relay card (The Alarms history will display the exact failure card)
Alarm Card Fail	Alarm card malfunction	Faulty alarm card	1. Check that the chip on socket is properly connected. 2. If it doesn't help, replace the alarm card.

Display	Problem	Possible Cause	Possible Solution
System Message 767	Backup / Emergency card malfunction	Faulty backup/emergency card	1. Check that the small jumper card (that is connected to the switch card) is properly connected. 2. Check that the chip on socket is properly connected. If it doesn't help replace the emergency card.
System Message 8574	CPU card malfunction	Faulty CPU card	Restart the (turn the power OFF and ON) Farm Premium and see if the problem still exists. • If it doesn't help check that all the chips on socket are properly connected. • If it helped, replace the CPU card.
Digital Card Failure	Digital input card malfunction	Faulty digital input card	1. Check that the chip in the socket is properly connected. 2. If chip is in place and still malfunctioning, replace the digital input card.
System Message 107	Saving to the EEPROM malfunction	Faulty CPU card	Restart the (turn the power OFF and ON) Farm Premium and see if the problems still exists. • If restart does not solve the problem, check that all the chips are in the sockets and connected properly. • If the restart worked, replace the CPU card.
Vent Failure	Vent reporting wrong position	Jumpers in relevant inputs are still there	Remove jumpers from relevant analog Inputs.
		Potentiometer is not fixed to vent movement	Fix potentiometer to vent
		Faulty potentiometer	Test analog input value. If needed, replace potentiometer (10-20 kOhm)
		Wrong wiring	Check and fix wiring

11 Appendix A: Advanced Analog Input Card

As an option, users can install Munters' Advanced Analog Input Card (P/N: C-PP-RAIC11-SEL / P-PP-RAIC11-SEL) which enables greater flexibility in choosing input ports for analog devices or potentiometers. When using this analog input card:

- Wire the device's signal input wire to **any** input port
- Place the jumper on the required position (see the following table)

Table 2: Jumper position

Device	Jumper location	Device	Jumper location
CO2 Sensor	4 - 20	Humidity Sensor	0 - 5V
Light Sensor	4 - 20	Wind Direction Sensor	WND
Temperature Sensor	Temp	Potentiometer	None

- Analog Devices
- Potentiometer

11.1 Analog Devices

To install an analog device:

1. Connect the device's COM signal to a COM port.
2. Connect the device's input signal to **any** input port.

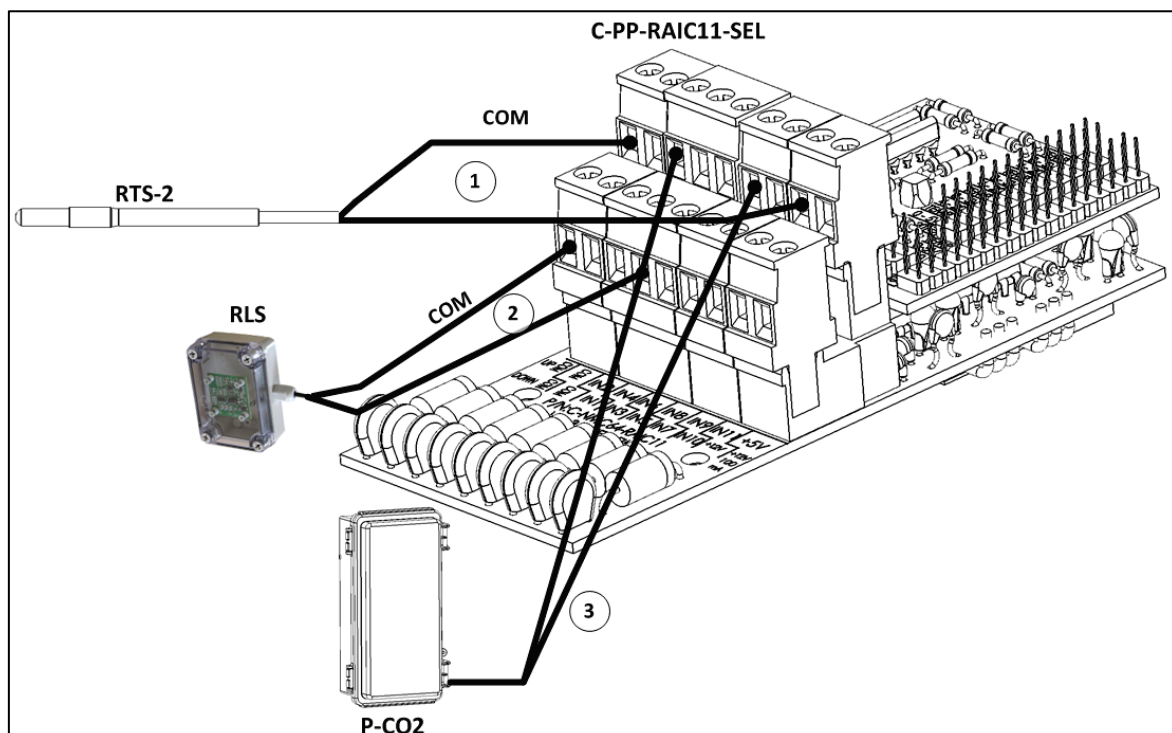


Figure 41: Advanced Analog Input Card Wiring (Example)

Figure 41 key			
1	Terminal 11 input	3	Terminal 5 input
2	Terminal 7 input		

NOTE Figure 41 is an **example** only. The input wires can go to any port.

NOTE When installing a wind sensor, connect it to Input 11 only. Place the jumper on WND.

- Place that input port's jumper on the required position:

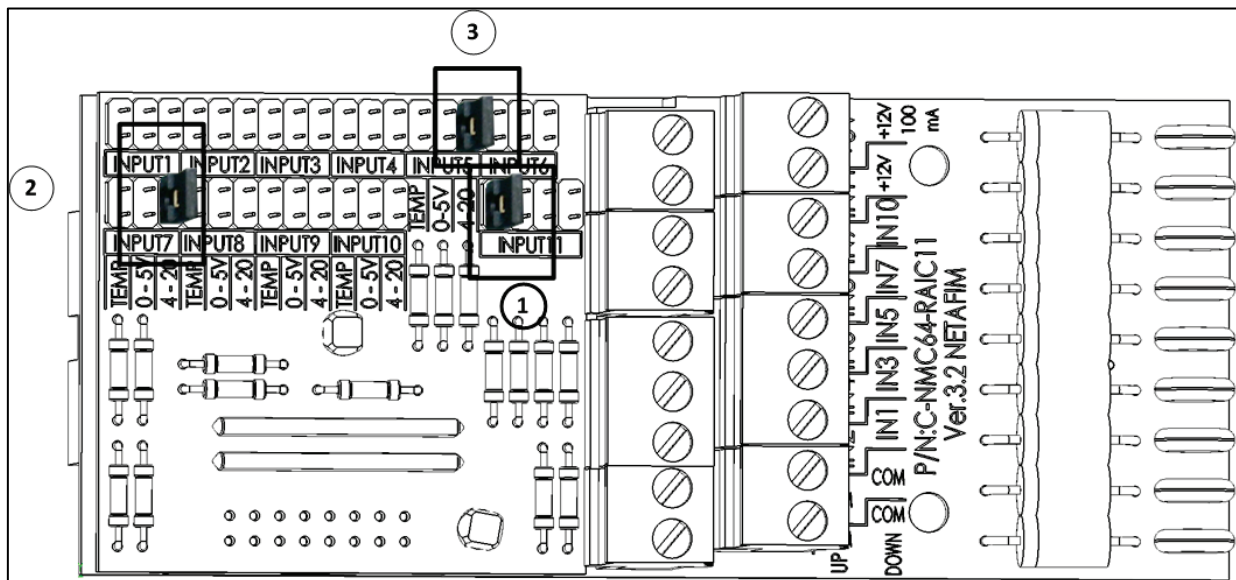


Figure 42: Jumper Placement (Example)

Figure 42 key			
1	Terminal 11 input	3	Terminal 5 input
2	Terminal 7 input		

11.2 Potentiometer

To install a potentiometer:

- Connect the device's COM signal to a COM port.
- Connect the device's input signal to any input port.
- Connect the 5V signal to an input port.

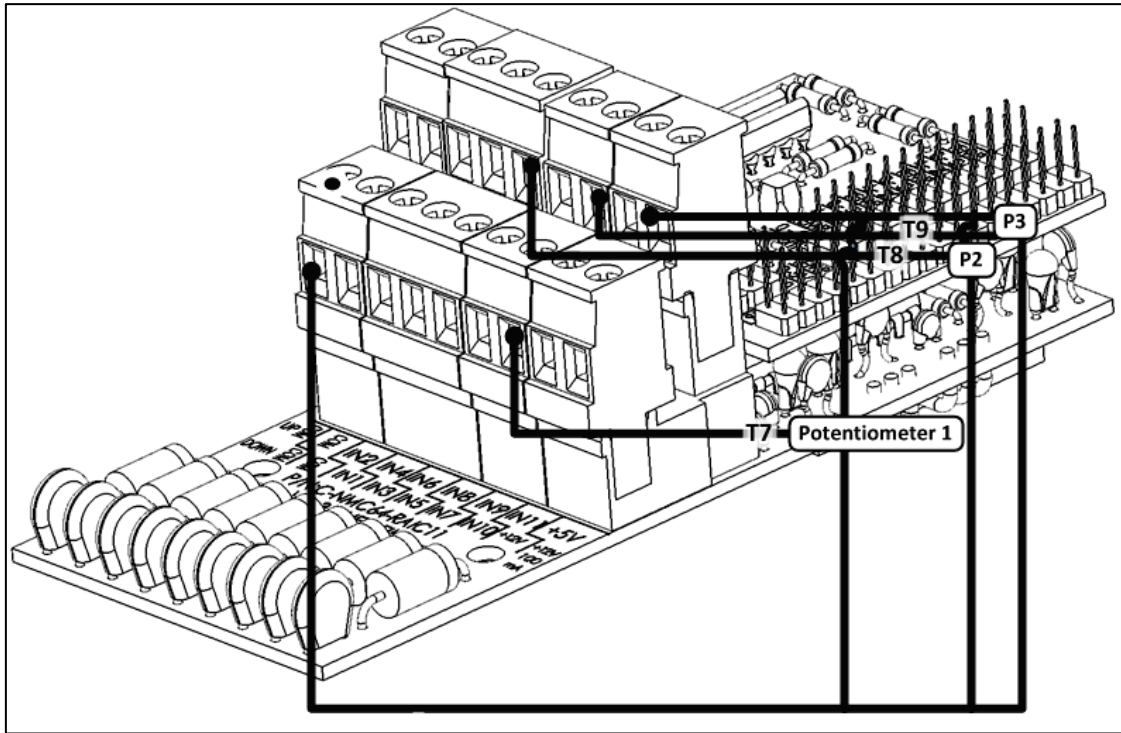


Figure 43: Potentiometer Wiring (Example)

4. **Remove** the jumper from the relevant input terminal.

12 Electrical Grounding

CAUTION Always connect temperature and sensor shields to earth ground. Avoid mixing high voltage wiring with sensor and low voltage wiring. Keep the controller as far as possible from heavy contactor boxes and other sources of electrical interference.

12.1 Ground Rods

Ground rods are used to efficiently connect the system to earth where current may be dissipated in the soil.

- **Material:** Ground rods should be copper clad or galvanized steel.
- **Diameter:** Minimum 5/8", preferably 3/4". Generally the larger the rod diameter, the lower it's resistance to current flow.
- **Length:** Minimum 2.5 meters (8 feet), preferably 3-meter (10-foot). A longer ground rod will reach a soil with higher moisture content. Moist soil carries current much better than drier soil.
- **Single grounding:** It is important that there is only one grounding location where a rod or series of rods are connected to each other using a ground wire.
- Independent ground rods will increase the risk of current, from a lightning strike for example, being dissipated through one rod and reentering the system through an adjacent rod.
- **Location:** Close to the main circuit breaker panel and in moist soil. For example in an area that is usually wet from a drip or a low spot where water drains. Make sure the area is well protected from damage by lawnmowers, tractors, etc'.
- **Rod installation:** Drive the rod into the earth until about 10 cm (4 inches) is left above grade. If it is impossible to drive the rod to the proper depth, it is acceptable to lay the rod horizontally, 80 cm (2.5 feet) below grade.

In case the rod is exposed to damage, for example by lawnmowers or tractors it can be installed in a hole, about 20 cm (8 inches) deep so that the rod is about 10 cm under grade and 10 cm above hole level.

NOTE The National Electric Code (NEC) mandates two ground rods unless you can show less than 10 ohms resistance with one rod.

12.2 Ground Wire

The ground wire is a large copper wire that connects the main circuit breaker panel to the ground rod.

- **Material:** Ground rods should be copper clad or galvanized steel.
- **Diameter:** Typically, 16 mm (6-gauge) copper wire is sufficient. If the wire run is greater than 20 feet, 20 mm (4-gauge) wire should be used.
- **Length:** Minimum 2.5 meters (8 feet), preferably 3-meter (10-foot). A longer ground rod will reach a soil with higher moisture content. Moist soil carries current much better than drier soil.

The ground wire should be protected from damage by lawnmowers, tractors, etc'. It should be buried minimum 15 cm (6 inches) under grade for protection and enter the house as soon as possible. It is important that the wire not be cut; it should remain continuous.

12.3 Ground Clamps

Ground wires should not be merely wrapped around a ground rod. Ground clamps are used to attach a ground wire to a ground rod. The most common clamp is known as an acorn clamp. Make sure the ground clamps you select are rated for outdoor use. Do not use pipe clamps rated for inside water lines or hose clamps to attach the ground wire.

12.4 What Should Be Grounded?

Any equipment that is or could become energized, even accidentally, should be grounded. Current from lightning, strikes objects in a random fashion. Accounts of lightning strikes reveal scenarios most of us could not predict.

Electric circuits should be wired with a 3-wire conductor consisting of hot, neutral and grounding wires. The grounding wire should be attached cleanly and securely to devices or systems to be grounded. The other end of the grounding wire should be attached to the ground bus on the main panel.

12.5 Lightning Protection

Because of the potential for lightning damage to electronic devices, Munters recommends supplying lightning protection on both the power supply and the communication terminals (if used).

12.5.1 Power Line Protection

The RPLP-1 provides lightning protection to the controller. Refer to the RPLP-1 documentation for detailed wiring instructions. While no lightning protection is perfect, the RPLP-1 significantly enhances the reliability of built-in lightning protection. In addition, Munters recommends using an isolation transformer in front of the RPLP-1 to help block lightning and other transients.

NOTE *Common surge protectors provide little additional protection, and may trip unnecessarily.*

An isolation transformer preceding the RPLP-1 provides significant additional protection against lightning.

12.5.2 Communication Line Protection

The RCLP-1 provides communication protection for the controller. Refer to the RCLP-1 documentation for detailed wiring instructions. Since outdoor communication lines can receive and conduct powerful electromagnetic pulses into the controllers and cause significant damage, Munters advises using a RCLP-1 prevent damage to the units.

NOTE *Common surge protectors provide little additional protection and may trip unnecessarily.*

13 Appendix A: PPJ-VARSPEED Card

The Farm Premium Pig variable speed card enables the integrated connectivity and control of two independent variable speed fans (as opposed to installing external devices). The card drives TRIAC relays installed on a heat sink connected to the Farm Premium. Note that the variable speed controller's performance depends on:

- The motor's characteristics
- Power line frequency

NOTE Only Farm Premium Pig XL models support this card. This card supports single phase electricity only.

1. Disconnect the Farm Premium from the power supply.
2. Wire the Motor 1 and / or Motor 2 to the Variable Speed Card Fan 1 / Fan 2 ports, respectively (Figure 44).

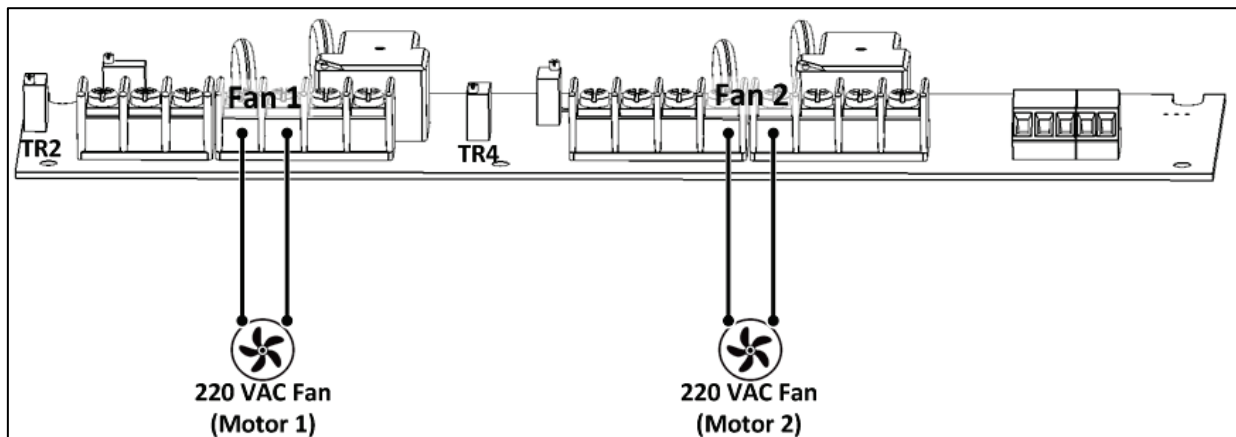


Figure 44: Variable speed card to fan wiring

3. Wire the Variable Speed Card to the Farm Premium's Analog Output card (Figure 45).

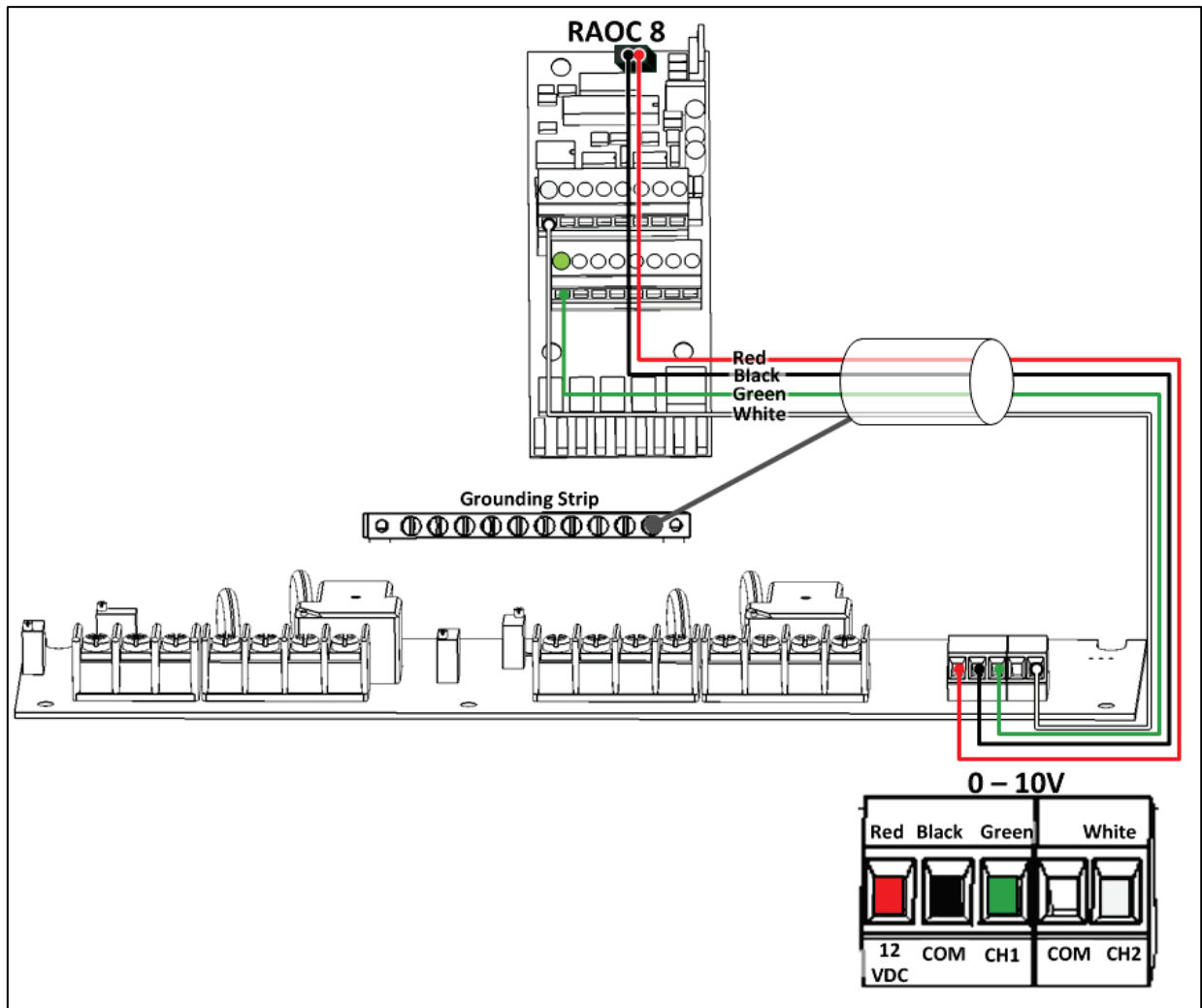


Figure 45: Variable speed card to analog card wiring

CAUTION Wire this cable to the controller grounding strip!

4. Wire the Variable Speed Card to TRIAC (Figure 46).

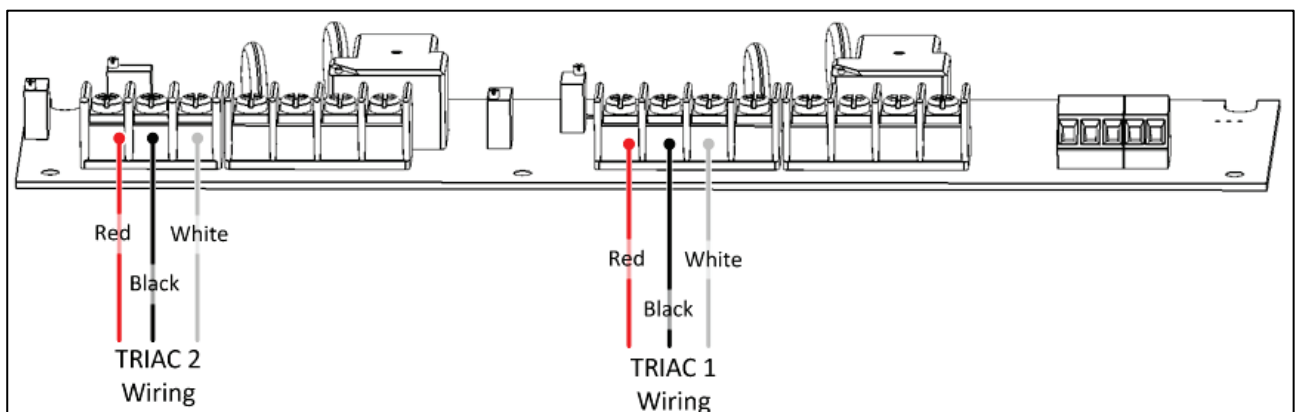


Figure 46: Variable speed card to TRIAC wiring

5. Wire the Variable Speed Card to the power source (Figure 47).

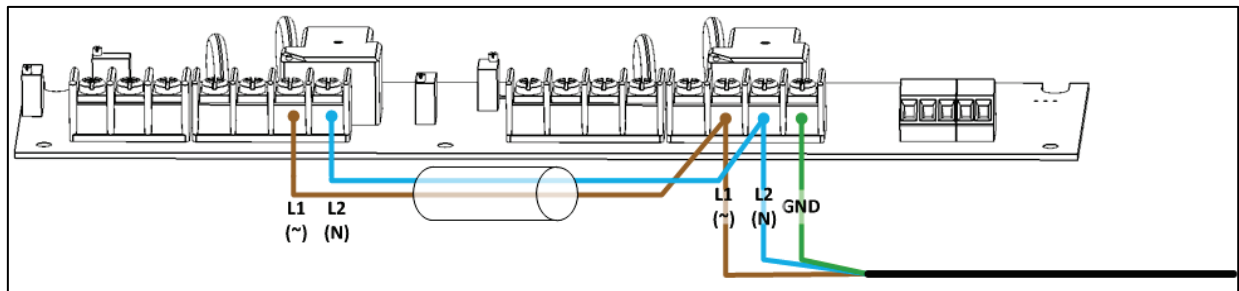


Figure 47: Variable speed card powering

6. On the controller screen, go to *Test > Analog Output*.
7. Set the required channels to 8V.
8. Set a voltmeter to $V\sim$.
9. If Fan 1 is connected to Motor 1:
 - a. Place the voltmeter probe on a Fan 1 terminal.
 - b. Turn the TR2 potentiometer until the voltmeter reads 180V true RMS.
10. Repeat for Fan 2 (turning TR4).

14 Appendix B: Farm Premium XL Double Door

As an option, the Farm Premium P XL can come with a double door, built to provide added protection to the relay switches. Installation of these units is exactly the same as other Farm Premium controllers.

Part numbers:

- PJ XL PIG DD
- PJ XL DD-40R

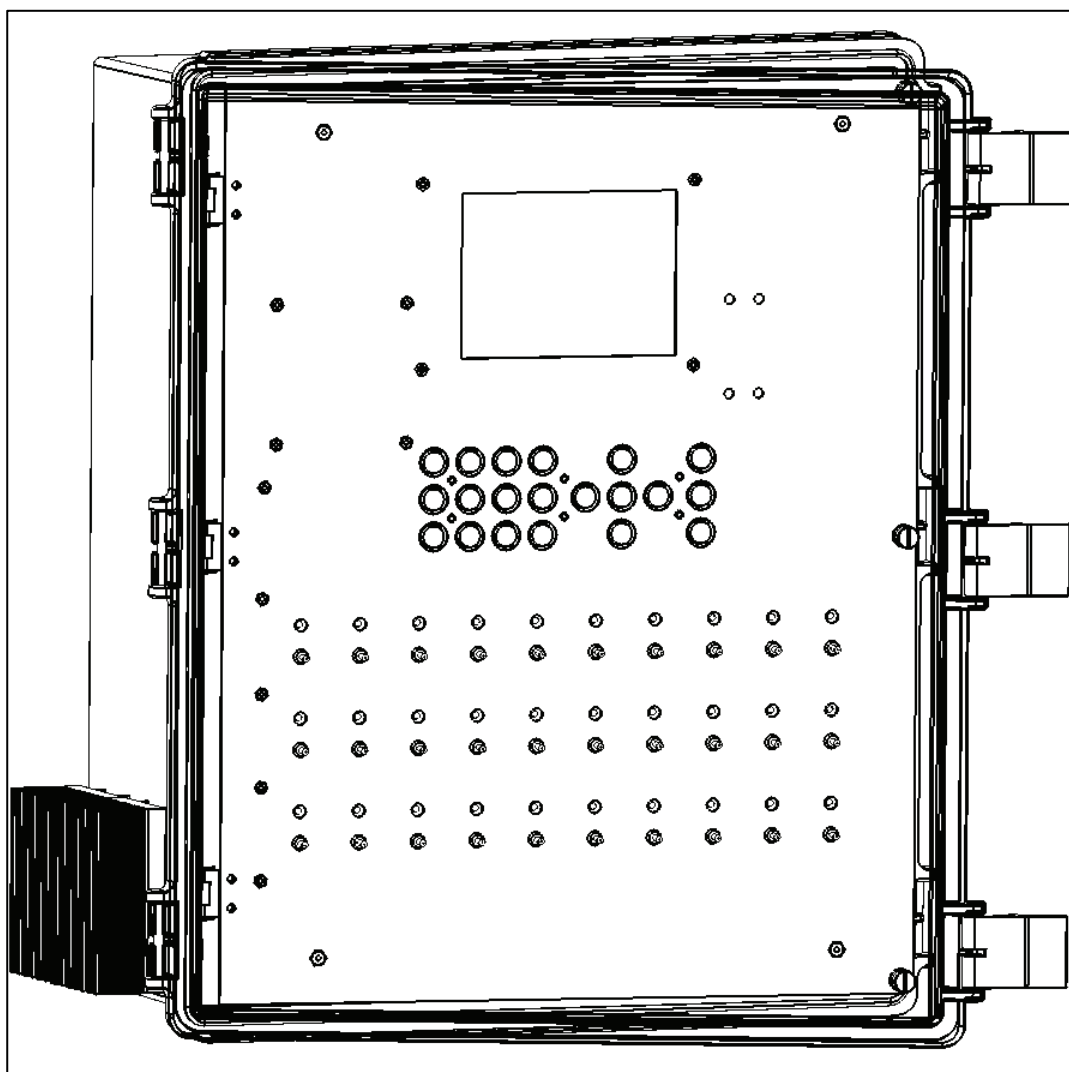


Figure 48: Farm Premium P XL Double Door Unit with TRIAC (Farm Premium Pigs)

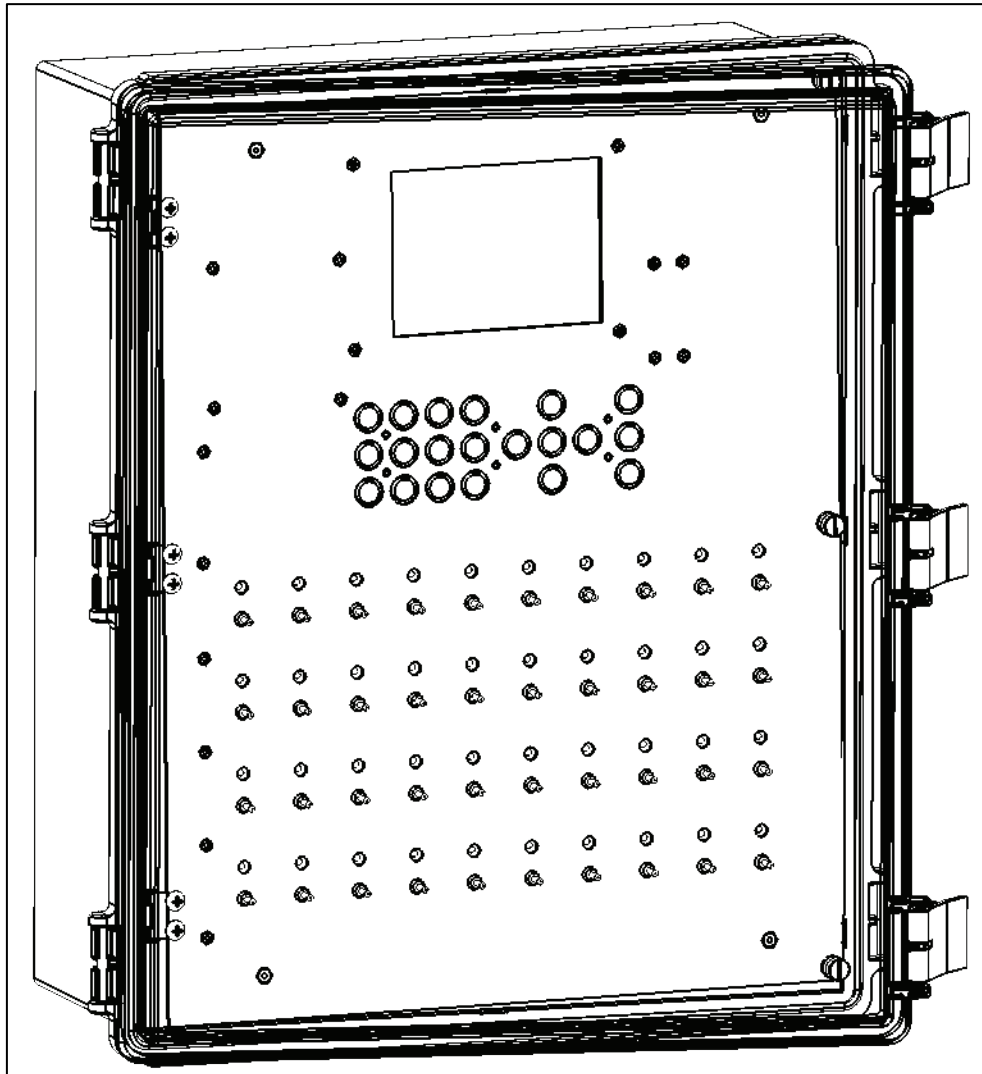


Figure 49: Farm Premium P XL Double Door Unit (Farm Premium Poultry)

15 Warranty

Warranty and technical assistance

Munters products are designed and built to provide reliable and satisfactory performance but cannot be guaranteed free of faults; although they are reliable products they can develop unforeseeable defects and the user must take this into account and arrange adequate emergency or alarm systems if failure to operate could cause damage to the articles for which the Munters plant was required: if this is not done, the user is fully responsible for the damage which they could suffer.

Munters extends this limited warranty to the first purchaser and guarantees its products to be free from defects originating in manufacture or materials for one year from the date of delivery, provided that suitable transport, storage, installation and maintenance terms are complied with. The warranty does not apply if the products have been repaired without express authorisation from Munters, or repaired in such a way that, in Munters' judgement, their performance and reliability have been impaired, or incorrectly installed, or subjected to improper use. The user accepts total responsibility for incorrect use of the products.

The warranty on products from outside suppliers fitted to Farm Premium, (for example Farm Premium sensors, inputs, cables, etc.) is limited to the conditions stated by the supplier: all claims must be made in writing within eight days of the discovery of the defect and within 12 months of the delivery of the defective product. Munters has thirty days from the date of receipt in which to take action, and has the right to examine the product at the customer's premises or at its own plant (carriage cost to be borne by the customer).

Munters at its sole discretion has the option of replacing or repairing, free of charge, products which it considers defective, and will arrange for their despatch back to the customer carriage paid. In the case of faulty parts of small commercial value which are widely available (such as bolts, etc.) for urgent despatch, where the cost of carriage would exceed the value of the parts, Munters may authorise the customer exclusively to purchase the replacement parts locally; Munters will reimburse the value of the product at its cost price.

Munters will not be liable for costs incurred in demounting the defective part, or the time required to travel to site and the associated travel costs. No agent, employee or dealer is authorised to give any further guarantees or to accept any other liability on Munters' behalf in connection with other Munters products, except in writing with the signature of one of the Company's Managers.

WARNING! *In the interests of improving the quality of its products and services, Munters reserves the right at any time and without prior notice to alter the specifications in this manual.*

The liability of the manufacturer Munters ceases in the event of:

- dismantling the safety devices;
- use of unauthorised materials;
- inadequate maintenance;
- use of non-original spare parts and accessories.

Barring specific contractual terms, the following are directly at the user's expense:

- preparing installation sites;
- providing an electricity supply (including the protective equipotential bonding (PE) conductor, in accordance with CEI EN 60204-1, paragraph 8.2), for correctly connecting the equipment to the mains electricity supply;
- providing ancillary services appropriate to the requirements of the plant on the basis of the information supplied with regard to installation;
- tools and consumables required for fitting and installation;
- lubricants necessary for commissioning and maintenance.

It is mandatory to purchase and use only original spare parts or those recommended by the manufacturer.

Dismantling and assembly must be performed by qualified technicians and according to the manufacturer's instructions.

The use of non-original spare parts or incorrect assembly exonerates the manufacturer from all liability.

Requests for technical assistance and spare parts can be made directly to the nearest Munters office. A full list of contact details can be found on the back page of this manual.



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