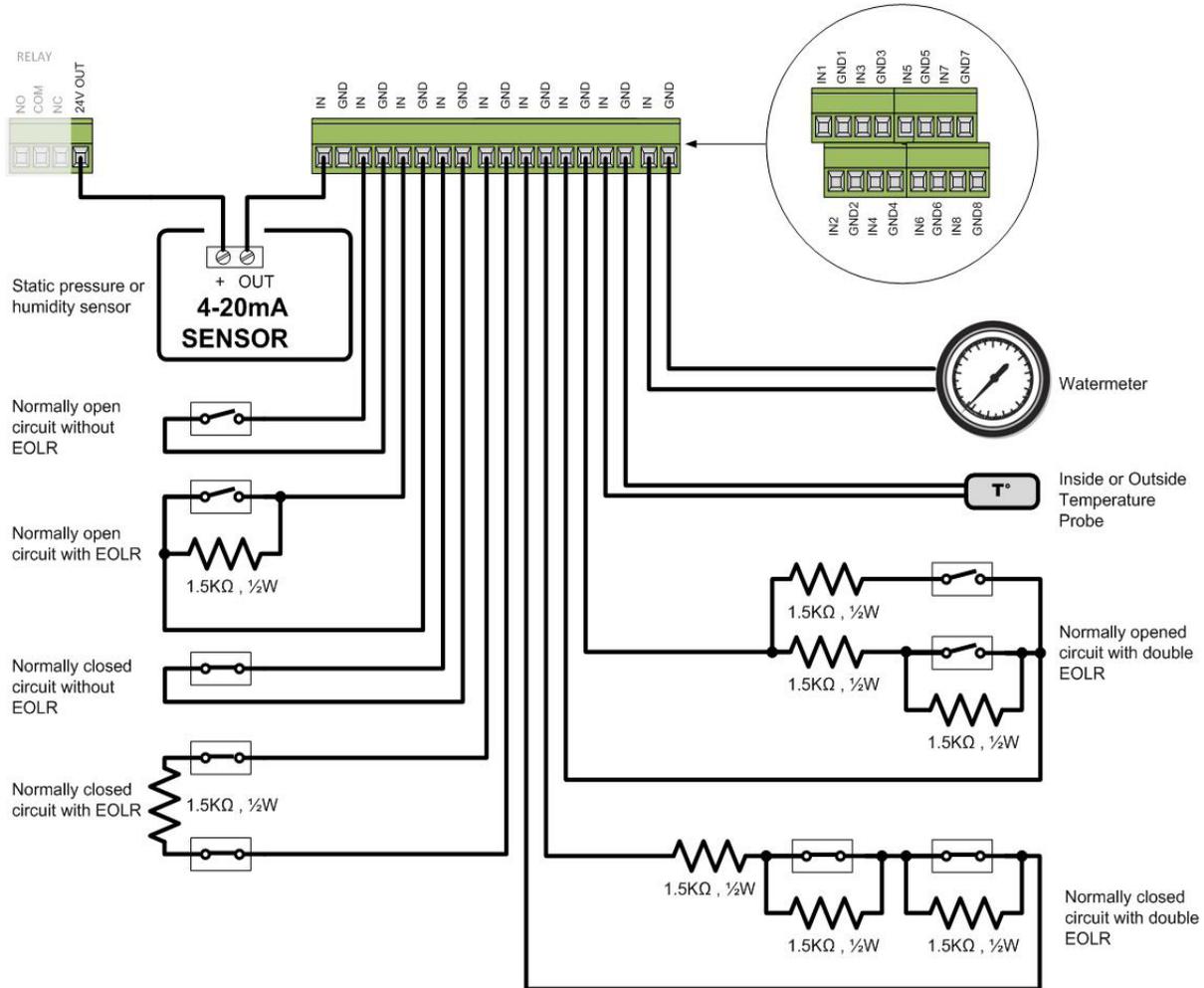


NOTE: For more complete information on the product, please refer to the manual on the USB key provided with your Agri Alert 128 Touch or go to the following web sites :

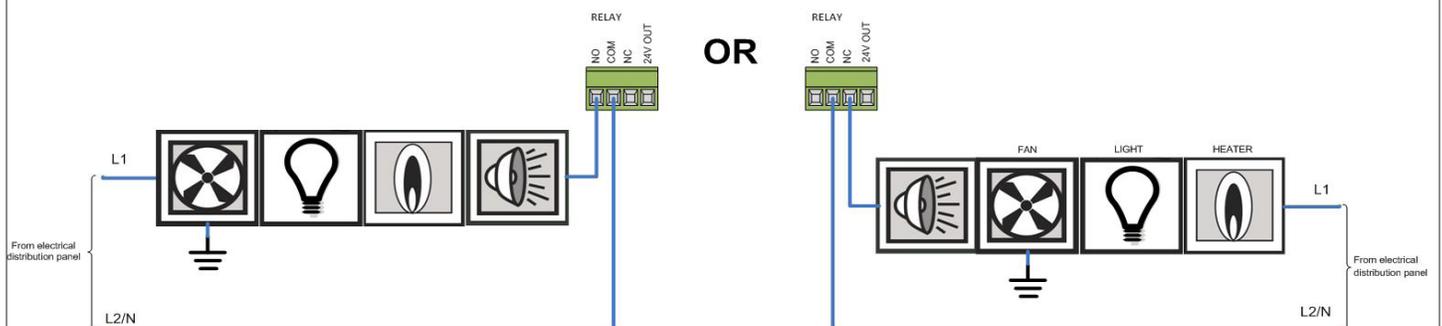
AP website: <http://www.automatedproduction.com/en/apmanuals.php>

Cumberland website: <http://www.cumberlandpoultry.com/sales-and-service/manuals.html>

ANALOG INPUTS Scheme

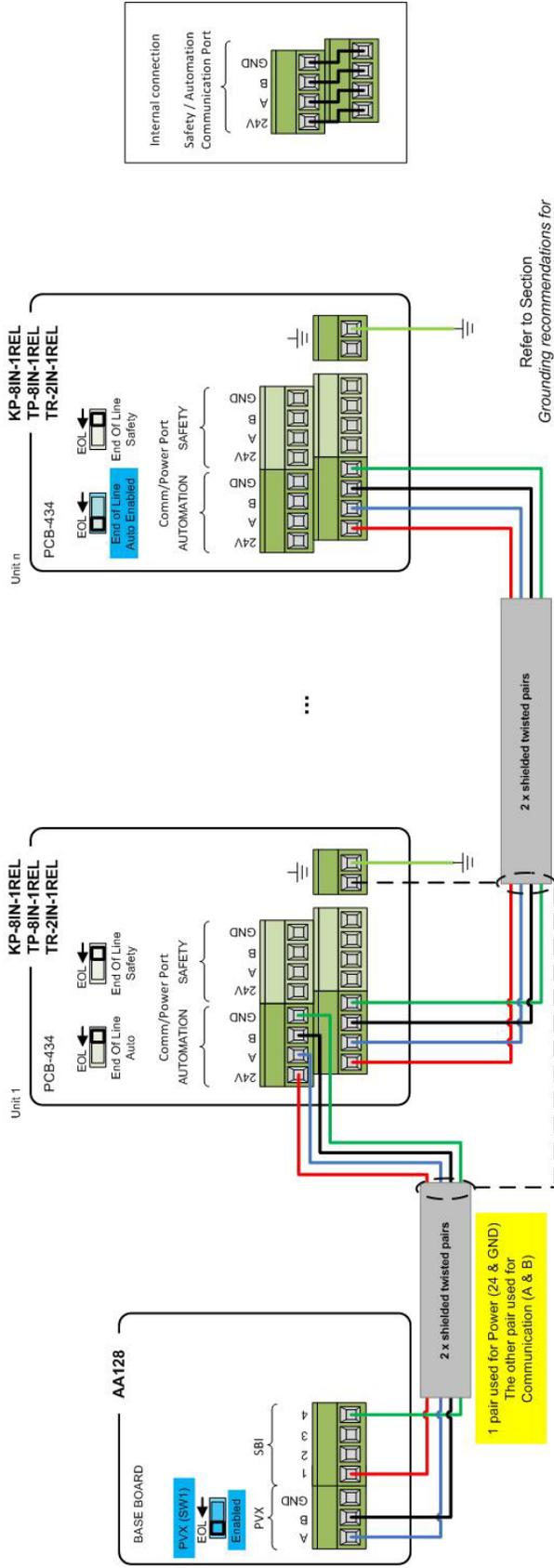
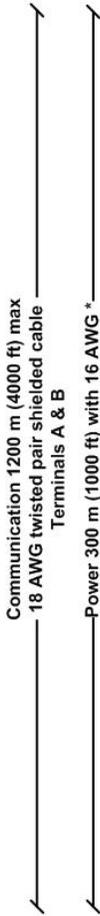


RELAY OUTPUT Scheme



PN895-00697 891-00518 REV.00

POWER SUPPLY and COMMUNICATION Scheme in an AA128 TOUCH SYSTEM



Refer to Section
Grounding recommendations for
the system into Instruction Manual

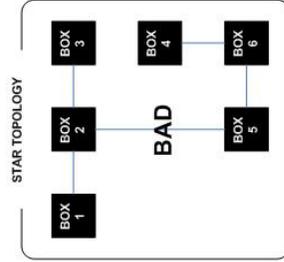
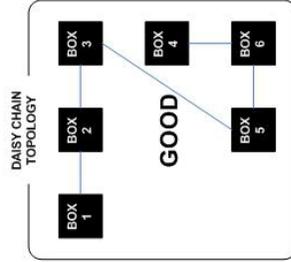
Distance	Minimum wire gage
150 m (500 ft)	18 AWG
300 m (1000 ft)	16 AWG *
600 m (2000 ft)	14 AWG
900 m (3000 ft)	12 AWG
1200 m (4000 ft)	10 AWG

* Recommended

Power Module	Power	Load on 24VDC
TR-2IN-1REL	4.3 W	180 mA
TP-8IN-1REL	4.7 W	196 mA
KP-8IN-1REL	5.6 W	233 mA

Some Rules:
 - The cable's shield shall be connected to EARTH only at one end.
 - Safety communication bus is not used with AA128.
 - END of LINE shall be enabled at both ends of the communication bus. All others END of LINE shall be disabled.
 - Maximum load on SBI is 2A, see power table at the left to determine the maximum number of unit the AA128 can power.

Communication wiring



Technical Specifications

Weight and dimensions		
KP-8IN-1REL Weight	861,83 grams (1.90 lbs)	
TP-8IN-1REL Weight	861,83 grams (1.90 lbs)	
TR-8IN-1REL Weight	816.47 grams (1.80 lbs)	
Enclosure dimensions	Height	178 mm (7 inches)
	Width	229 mm (9 inches)
	Depth	76.2 mm (3 inches)
Clearance around the enclosure	Top	152mm (6 inches)
	Bottom	152mm (6 inches)
	Sides	152mm (6 inches)

Table 1 Safety ratings

Inputs:	
KP-8IN-1REL Supply Input	24/28Vdc, 5.62W
TP-8IN-1REL Supply Input	24/28Vdc, 4.72W
TR-2IN-1REL Supply Input	24/28Vdc, 4.3W
Outputs:	
Motor/inductive loads	<p>5 A MAX</p> <p>(Nb of Units = Max current rating divide by the max current of the fan multiply by its service factor will give you the number of this fan type the relay can drive)</p> <p>For example, $5A / (2.5 A * 1.5 SF) = 1.3$, relay can drive up to 1 fan Minimum load of 0.2A</p>
Resistive loads (electric heating element)	150Vac Max. / 28/24 VAC/DC, 5A max. Minimum load of 0.2A
Tungsten loads loads (incandescent and heat lamp)	<p>120 Vac, 2A max.</p> <p>Minimum load of 0.2A</p>
DC loads	<p>24Vdc, 5A max.</p> <p>(The current reading is not available in DC) Minimum load of 0.2A)</p>

Table 2 Functional ratings

Inputs:	
Temperature	Compliant to GSIE temperature probes, Accuracy of $\pm 0.1^{\circ}\text{C}$ in a normal operation, Allowable loss of performance in a noisy environment: Accuracy of $\pm 0.65^{\circ}\text{C}$ from initial reading with a fixed resistor of 1% precision used for testing purpose.
Analog 0-5 Volts	Sensor must be able to drive a 2k Ohms load, which means the sensor must drive at least 2.5mA to ensure correct readings. Accuracy of $\pm 30\text{mV}$ in a normal operation, Allowable loss of performance in a noisy environment: Accuracy of $\pm 80\text{mV}$ from initial reading with a voltage source of 1% precision used for testing purpose.
Analog 4-20mA	Sensor must be able to drive a 120 Ohms load Maximum rating: 20.8mA, 2.5V Accuracy of $\pm 0.2\text{mA}$ in a normal operation Allowable loss of performance in a noisy environment: Accuracy of $\pm 0.4\text{mA}$ from initial reading with a current source of 1% precision used for testing purpose.
Dry contact	Close contact resistance must be lower than 200 Ohms Open contact resistance must be higher than 100k Ohms
Water meter, Pulse speed	Max 100Hz, pulse width minimum of 3.2ms Max 100 Ohms (close contact) and min. 100k Ohms (open contact) including the value of the wire resistance
Relay outputs with current sensing input	Accuracy of $\pm 0.5\text{A}$ for AC load $< 5\text{A}$ in a normal environment Allowable loss of performance in a noisy environment: Accuracy of $\pm 0.75\text{A}$ from initial reading with a load of 1% precision used for testing purpose
Outputs:	
24Vdc	24 Vdc, 50 mA max
Operational ratings	
Operating Temperature	-40 to 40°C (-40 to 104°F)
Storage Temperature	-20 to 50°C (-4 to 122°F)
Environment Type	Indoor and outdoor use
Pollution Degree	2
Installation Category	2
Altitude	2000 Meters Max. (6561 Ft. Max)

Table 2 Functional ratings (cont'd.)

Operating Relative Humidity (maximum)	-40 to 0°C (-40 to 32°F) Non condensing 0 to 10°C (32 to 50°F) Non condensing 10 to 30°C (50 to 86°F) 95 % (± 3 %) Non condensing 30 to 40°C (86 to 104°F) 95 % (± 3 %) Non condensing
IP rating (IEC 60529)	66
Nema Rating (Nema 250)	4X
Flame Rating (UL94)	5VA V-0
Flame Rating (IEC 60695 or IEC 60707)	FV-0
IK rating (degree of mechanical protection - impact, IEC 62262)	08

Table 3 Telecommunication ratings for RFID module (Only on KP-8IN-1REL and TR-2IN-1REL)

Protocol Handling	ISO15693	
Output Power	+20 dBm (100 mW)	
System Clock Frequency Output	13.56MHz	
Equipment type (ETSI EN 301 489-3)	III	Others : Identification/Access control
Class type (ETSI EN 301 489-3)	2	(Medium reliable SRD communication media; e.g. causing inconvenience to persons, which cannot simply be overcome by other means)