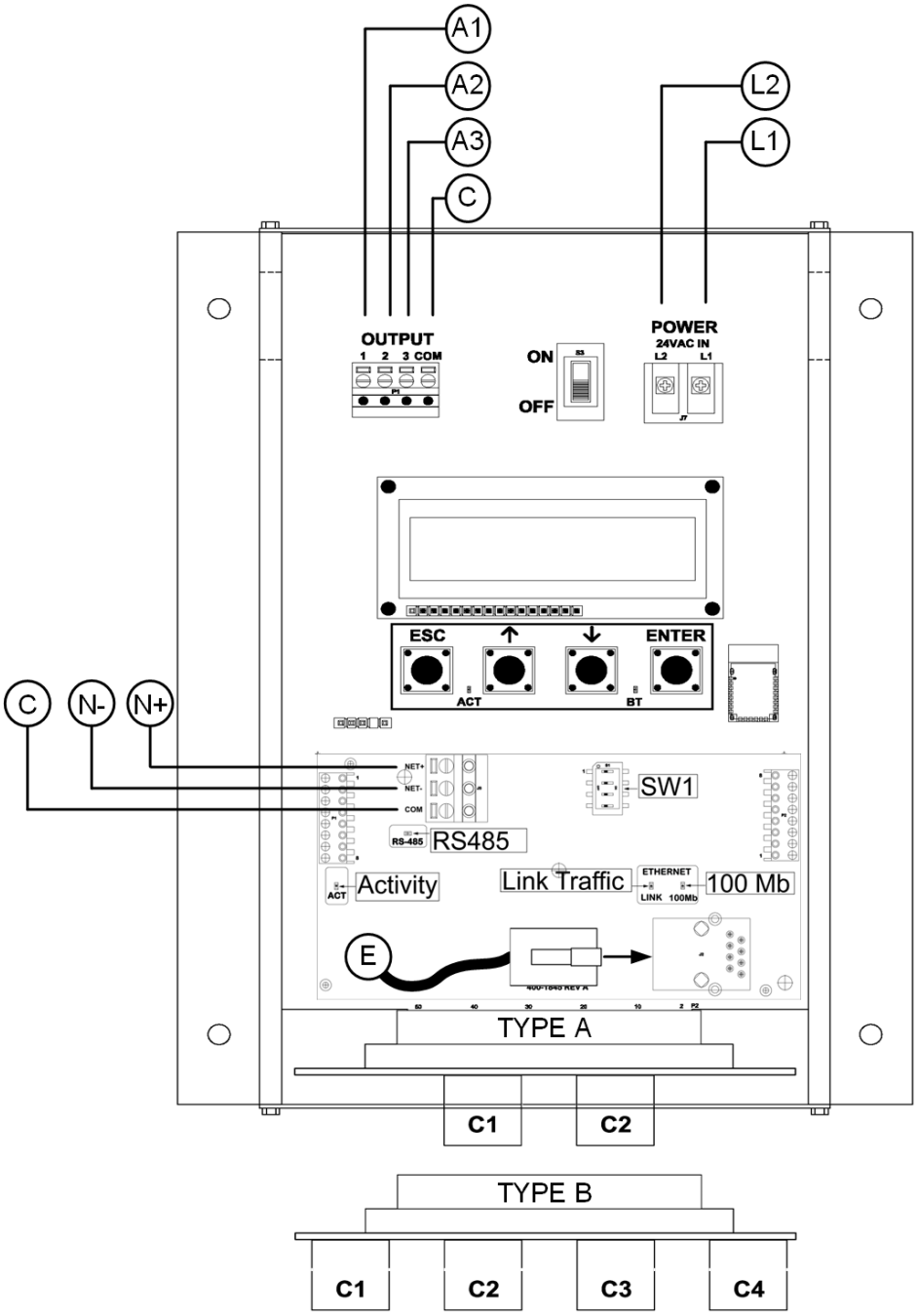
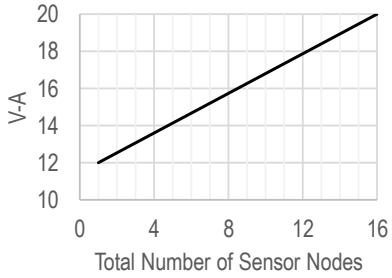
Advantage IV (A4) GTB116e-P WIRING GUIDE



TRANSMITTER CONNECTIONS

Power		Analog Out (isolated)				RS-485 (isolated)			Ethernet	Type	
L1	L2	A1	A2	A3	C	N+	N-	NC	E	A	B
24 VAC (hot)	24 VAC (neutral)	Airflow +	Temperature or Alarm +	Psychrometric Property+	Signal Common	Network +	Network -	Network Common	RJ-45 CAT5 or greater	2 probes x 8 sensors/probe	4 probes x 4 sensors/probe

V-A REQUIREMENT @ 24 VAC



INSTRUCTIONS TO INSTALLER:

1. Mount the transmitter in a location where all probe cables can reach the receptacles of the transmitter. Provide a weatherproof enclosure (by others) and mount away from direct sunlight when outdoor mounting is required.
2. Connect the sensor probes to the transmitter. Although probes are "plug and play" and connections to specific receptacles are not required, it is recommended that probes are connected Probe 1 to receptacle C1, Probe 2 to receptacle C2, etc. Probe numbers are indicated on each cable hang tag.

ⓘ *Cables have an FEP plenum rated jacket that are UV tolerant and suitable for operation over the entire operating temperature range of the device.*

⚠ *Sensor probe plugs are keyed and NOT twist-lock. Align the key and push the plug onto the transmitter receptacle. Twisting may damage the connector pins.*

3. Select a 24 VAC transformer that provides 22.8 to 26.4 VAC during operation. Refer to the chart above to optimize the transformer size or size the transformer for 20 V-A for each measurement location.

⚠ *Multiple transmitters wired to a single transformer must be wired "in-phase" (L1 to L1 and L2 to L2).*

4. If analog output signals are used, continue to step 5, otherwise skip to step 6.
5. Connect each analog output signal required to the host B.A.S. using shielded twisted-pair wire. Properly terminate the shield (typically at the B.A.S.).

ⓘ *AO3 (relative humidity, enthalpy, or dew point) is only available if the /H humidify sensor option is provided.*

⚠ *If twisted pair wire and/or shielded cable is not used, extraneous electrical noise can be picked up between the transmitter and host control panel.*

6. If the RS-485 connection is required continue to step 7, otherwise skip to step 9.
7. Connect to an RS-485 network (BACnet MS/TP or Modbus RTU), if required, using a 3-conductor network cable meeting the corresponding BACnet or Modbus standards. Ensure that all three connections, N+, N- and NC are connected.

⚠ *If a 2-conductor network cable or other non-conforming cable is used, network speed, length and reliability may be compromised or network failure may occur.*

8. If the transmitter is the first device on the network run, configure SW1 on the output card for "failsafe-bias". If the transmitter is the last device on the network run, configure SW1 for "end-of-line". Otherwise, configure SW1 for no termination (default).

SW1 - RS-485 TERMINATION DIP SWITCH POSITIONS

1	2	3	4	TERMINATION
OFF	OFF	OFF	OFF	No termination (default)
OFF	ON	ON	OFF	End of Line
ON	OFF	OFF	ON	Fail-Safe Bias

9. If the Ethernet connection is required continue to step 10, otherwise skip to step 11.
10. Connect to an Ethernet network (BACnet Ethernet, BACnet IP, Modbus TCP or TCP/IP), if required, using a standard RJ-45 terminated Ethernet cable, CAT5 or greater.

⚠ *Use of improperly wired RJ-45 connectors may damage the Ethernet output circuit of the transmitter.*

11. Refer to the *GTB116e-P Startup Guide* prior to moving the power switch to the "ON" position.