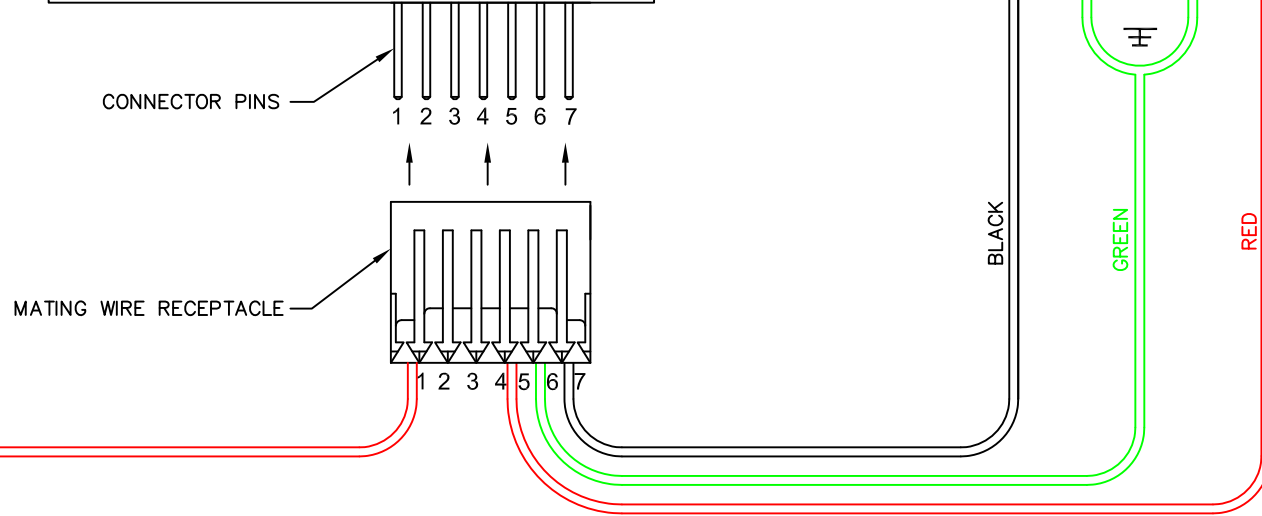
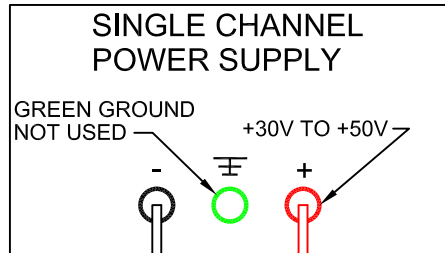
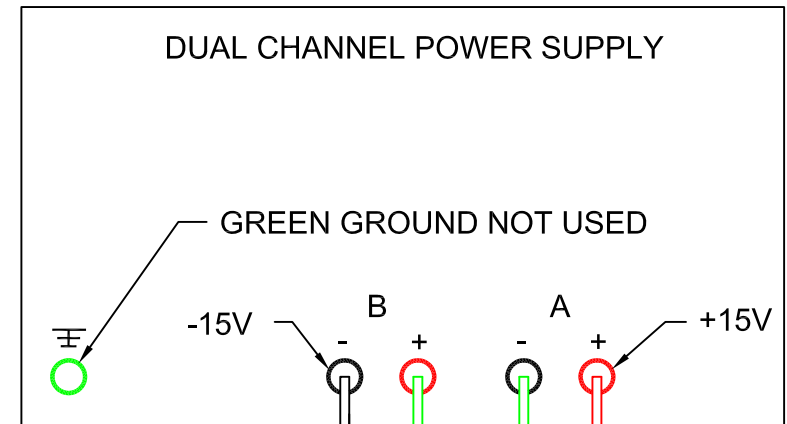
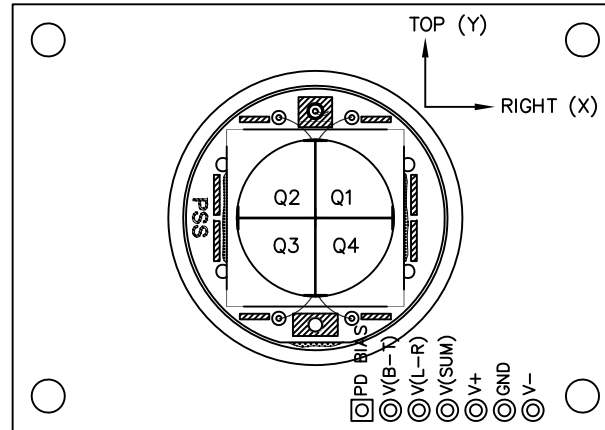


SERIES Q QUADRANT MODULE HOOK UP NOTES

QP154-Q-HVSD QP45-Q-HVSD

PIN CONNECTIONS

PIN	FUNCTION
1	PD BIAS VOLTAGE (V+) (REQUIRED)
2	Y DIFFERENCE $(V_{Q3} + V_{Q4}) - (V_{Q1} + V_{Q2})$
3	X DIFFERENCE $(V_{Q2} + V_{Q3}) - (V_{Q1} + V_{Q4})$
4	SUM $(V_{Q1} + V_{Q2} + V_{Q3} + V_{Q4})$
5	+V SUPPLY VOLTAGE
6	GROUND
7	-V SUPPLY VOLTAGE



GROUND TO
MODULE PIN 6

TO OPERATE THE QP154-Q-HVSD, OR QP45-Q-HVSD QUADRANT MODULES YOU WILL NEED A DUAL OUTPUT POWER SUPPLY AND A SINGLE OUTPUT POWER SUPPLY. THE CURRENT REQUIREMENT IS ABOUT 15 mA FOR EACH VOLTAGE POLARITY. MOST LAB BENCH TOP DUAL SUPPLIES WILL WORK. A DUAL SUPPLY WILL HAVE TWO SETS OF VOLTAGE CONNECTIONS, EACH WITH THREE PLUG-INS, "+" (RED), "-" BLACK AND GROUND (GREEN). IN SOME CASES THERE WILL ONLY BE ONE GREEN GROUND PLUG-IN FOR BOTH CHANNELS. THE GREEN GROUND PLUGS ARE NOT USED. YOU WILL NEED TO SHORT THE "+" OF ONE CHANNEL SET TO THE "-" OF THE OTHER CHANNEL SET AND THIS WILL BE THE GROUND TO THE QUADRANT MODULE'S (PIN 6). THE REMAINING "+" GOES TO THE QUADRANT MODULE'S "+" (PIN 5), AND THE REMAINING "-" GOES TO THE QUADRANT MODULE'S "-" (PIN 7). THE "+" FROM THE SINGLE OUTPUT POWER SUPPLY GOES TO THE QUADRANT MODULE'S "PHOTODIODE BIAS" (PIN 1), AND THE "-" WILL NEED TO BE GROUNDED TO THE MODULE'S PIN 6.

THE MODULE WILL NOT WORK WHEN POWERED BY A SINGLE OUTPUT POWER SUPPLY ON PINS 5,6 AND 7. THE DEVICE WILL NOT OPERATE CORRECTLY IF THERE IS NOT A MINIMUM OF +30V APPLIED TO PIN 1. THE DEVICE WILL BE DAMAGED IF PIN 1 RECEIVES A NEGATIVE VOLTAGE. WE DO NOT RECOMMEND POWERING THE QUADRANT MODULE WITH BATTERIES BECAUSE THE CURRENT LEVELS ARE USUALLY INSUFFICIENT AND/OR DIMINISH OVER TIME.