

UM heated bed MosFET relay hack - bill of materials

Version: 3.0 10.10.2016

Instructions: Build your BOM using the first "common for all versions" part and choosing between one of each input and output sides respectively.

Common for all versions

qty	designator	description	manufacturer	manufacturer p/n	supplier	supplier p/n
2	X1, X2	Screw type terminal block, 2P, 2.54mm	TE Connectivity	282834-2	Mouser	571-282834-2
1	LED	LED 5mm round, red	Lite-On	LTL-307P	Mouser	859-LTL-307P
1	OC	Optocoupler	Vishay	TCET1101	Mouser	782-TCET1101
1	R3	Resistor 10k Ohms, 1%, 1/4 W axial	KOA Speer	MF1/4DC1002F	Mouser	660-MF1/4DC1002F
1	Q1	MosFET N-CH, TO-220 high current	IR / Infineon	IRLB3813PBF	Mouser	942-IRLB3813PBF

Input side - 12 V controller

qty	designator	description	manufacturer	manufacturer p/n	supplier	supplier p/n
1	D1	Diode TVS, unidirectional, 12V	Littelfuse	SA12A	Mouser	576-SA12A
2	RvLED, R1	Resistor 1k Ohms, 1%, 1/4 W axial	KOA Speer	MF1/4DC1001F	Mouser	660-MF1/4DC1001F

Input side - 18-20 V controller

qty	designator	description	manufacturer	manufacturer p/n	supplier	supplier p/n
1	D1	Diode TVS, unidirectional, 20V	Littelfuse	SA20A	Mouser	576-SA20A
2	RvLED, R1	Resistor 1.69k Ohms, 1%, 1/4 W axial	KOA Speer	MF1/4DC1691F	Mouser	660-MF1/4DC1691F

Input side - 24 V controller

qty	designator	description	manufacturer	manufacturer p/n	supplier	supplier p/n
1	D1	Diode TVS, unidirectional, 24V	Littelfuse	SA24A	Mouser	576-SA24A
2	RvLED, R1	Resistor 2.2k Ohms, 1%, 1/4 W axial	KOA Speer	MF1/4DC2201F	Mouser	660-MF1/4DC2201F

Output side - 12 V heatedbed

qty	designator	description	manufacturer	manufacturer p/n	supplier	supplier p/n
1	R2	Resistor 1.69k Ohms, 1%, 1/4 W axial	KOA Speer	MF1/4DC1691F	Mouser	660-MF1/4DC1691F
1	D2	Diode TVS, unidirectional, 12V	Littelfuse	SA12A	Mouser	576-SA12A

Output side - 24 V heatedbed

qty	designator	description	manufacturer	manufacturer p/n	supplier	supplier p/n
1	R2	Resistor 13.7k Ohms, 1%, 1/4 W axial	KOA Speer	MF1/4DC1372F	Mouser	660-MF1/4DC1372F
1	D2	Diode TVS, unidirectional, 24V	Littelfuse	SA24A	Mouser	576-SA24A

Power supply recommendations

Note: You get free shipping from mouser for orders above ~60 \$. Check your shopping cart for correct value and dependence of shipping country

description	manufacturer	manufacturer #	supplier	supplier #	remarks
300W, 24V power supply, "first choice"	Mean Well	HRPG-300-24	Mouser	709-HRPG-300-24	for 200W heated beds
300W, 12V power supply, "first choice"	Mean Well	HRPG-300-12	Mouser	709-HRPG-300-12	for 200W heated beds
150W, 24V power supply, "first choice"	Mean Well	HRPG-150-24	Mouser	709-HRPG-150-24	for 100W heated beds
150W, 12V power supply, "first choice"	Mean Well	HRPG-150-12	Mouser	709-HRPG-150-12	for 100W heated beds
350W, 24V power supply, "second choice"	Mean Well	LRS-350-24	Mouser	709-LRS350-24	for 200W heated beds
350W, 12V power supply, "second choice"	Mean Well	LRS-350-12	Mouser	709-LRS350-12	for 200W heated beds
150W, 24V power supply, "second choice"	Mean Well	RSP-150-24	Mouser	709-RSP150-24	for 100W heated beds
150W, 12V power supply, "second choice"	Mean Well	RSP-150-12	Mouser	709-RSP150-12	for 100W heated beds