MASTERFLUX
By Tecumseh

Operating SIERRA Compressors at a Fixed Speed

1) Using fixed speed:

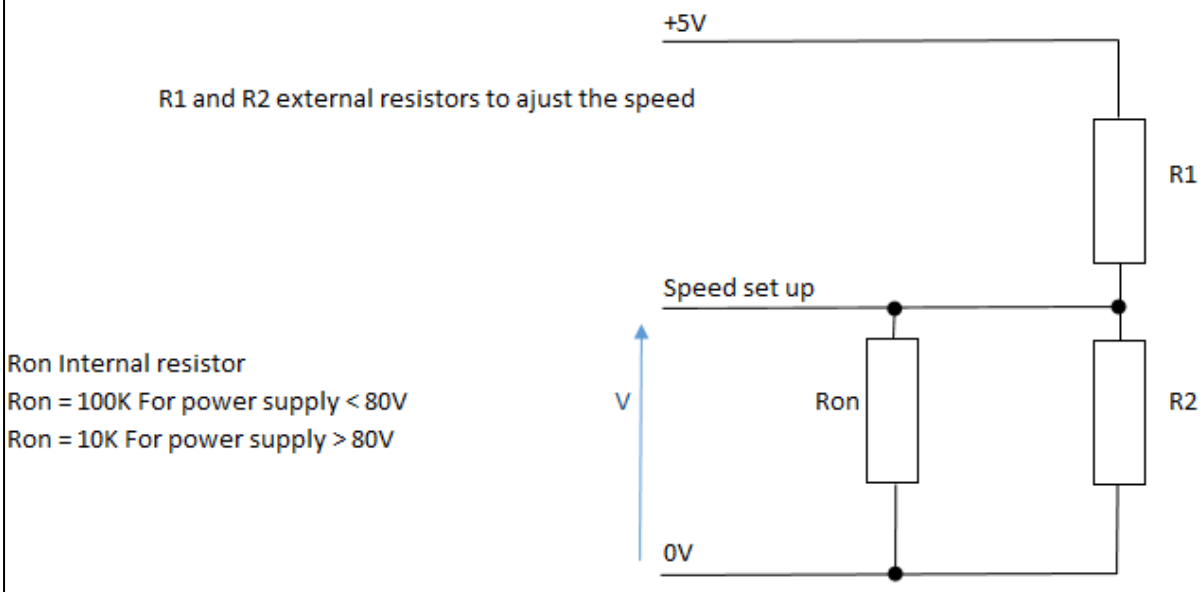
a) You can use a full speed jumper to make work the compressor at max speed (part number 24/48V: 040F0190 / part number 12/24V: 040F0253). It has to be connected between "+5 Volts" and "Speed set-point", and also between "Power On/Off" and "Vm" to control the compressor run order. (12/24 AND 24/48V ONLY)

b) You can use 2 resistors to set up a desired speed for the compressor:
For precision, it's better to use 2 resistors

- One fixed resistor between "Speed set-point" and "Ground". The value has to be fixed at 10 kΩ for the correct behavior of the voltage divider.

- One resistance between "+5 Volts" and "Speed set-point". The value of this resistance will depend on the speed required. **To do so, you can download our resistor calculator tool on our website.**

Wiring Diagram:



Calculation method:

R1+R2 should be >10k. For good noise immunity, I would suggest keeping R1+R2 <50k.

V = (5xR2//Ron)/(R1+R2//Ron)

V = ((Ron*R2)/Ron+R2)) * (5V / ((R1 +((Ron*R2)/Ron+R2)))

Pin Controller 12/24 VDC:

JP1-1: Ground
JP1-2: Power On/Off
JP1-5: +5 Volts
JP1-6: Speed set-point
JP6-1: Vm

JP5	
1	Vcc
2	Tx
3	Rx
4	Common

JP1	
1	Common
2	ON / OFF Input
3	Fault output
4	Tachometer output
5	VCC (+5V Output)
6	Analog Speed Input (0-5V)

JP6	
1	VM Fused
2	Common
3	Common

Pin Controller 24/48 VDC:

JP5-2: Ground
JP5-3: Power On/Off
JP5-4: Vm
JP5-6: +5 Volts
JP5-7: Speed set-point

JP3	
1	Vcc
2	Tx
3	Rx
4	Common

JP5	
1	NC
2	Ground
3	ON / OFF Input
4	Motor Power
5	Tachometer output
6	VCC (+5V Output)
7	Analog Speed Input (0-5V)
8	Fault output

Pin Controller 80 VDC

JP1- 1: Ground
JP1-5: +5 Volts
JP1-6: Speed set-point

JP1	
1	Common
2	ON / OFF Input
3	Fault output
4	Tachometer output
5	VCC (+5V Output)
6	Analog Speed Input (0-5V)

Pin Controller series 025F0140-XX
J4-2&3: Ground
J4-6: +5Vuser
J4-7: Analog speed command
Ground?

JP4	
User Interface	
1	NC
2	Ground
3	Ground
4	Digital speed input (PWM)
5	Tachometer output
6	VCC (+5V Output)
7	Analog Speed Input (0-5V)
8	Fault output

Pin Controller 600 VDC:
J4-2&3: Ground
J4-6: +5V user
J4-7: Analog speed command

JP4	
Isolated User Interface	
1	NC
2	Ground
3	Ground
4	Digital speed input (PWM)
5	Tachometer output
6	VCC (+5V Output)
7	Analog Speed Input (0-5V)
8	Fault output