

EM-295C is a one direction DC motor speed controller. The controller uses PWM principle with high efficiency. The PWM frequency mode can be set to high or low. The version C printed board works only with C version firmware. This device has designed for speed control. The Supply voltage changes are compensated and there is also adjustable RxI compensation for compensate motor load affect for rpm. Device has also few auxiliary I/O. The output can be used for fault indication or brake control. The inputs can be used as a end limits, stop, brake or freewheel control input. The current limit limits the torque of motor or shutdown the motor.

Settings can be done with serial interface unit EM-236 or EM328 series PC dongle for Ementool lite PC-program. Connect EM-236 interface unit to the red on-board connector of the device.

PARAMETER LIST EM-295C prog v1.1

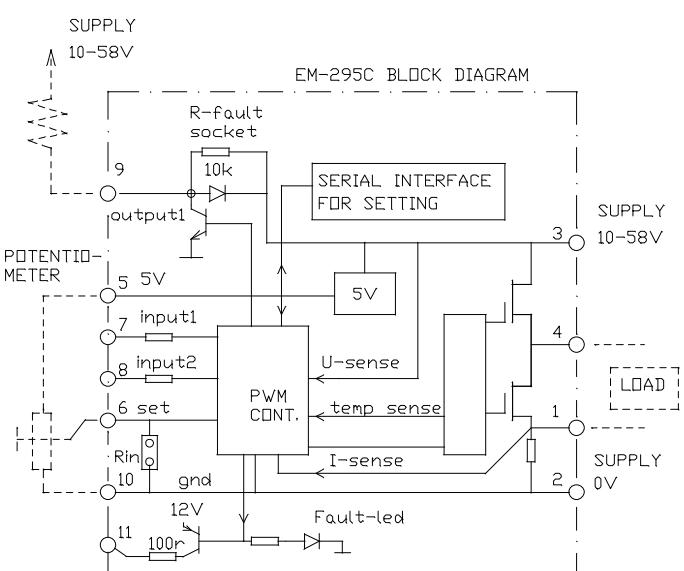
1. Pwm frequency 0-1-2 0=2khz, 1=16kHz < 1 >
2. Speed input range 0-1-2 0=0-5V, 1=0-10V, 2=1-5V < 0 >
3. Start ramp 0-2.5s 0-25 < 10 >
4. Stop ramp 0-2.5s 0-25 < 5 >
5. Current limit 0-40A 0-40 < 30 >
6. Brake current limit 2-20 A < 10 >
7. Load compensation 0-250 < 0 >
8. Overvoltage limit 15-60V < 55 >
9. Output max. 5-55V < 50-550 > < 280 >
10. Overcurrent trip < I-trip > 0=disabled, 1=enabled < 1 >
11. out 1 config. 0-3 < 1 >
 - 0=open if alarm
 - 1=pull down if alarm
 - 2=pull down when run (magn. brake control)
 - 3=activates if overvoltage (brake res cont.)
12. input 1 config. 0-5 < 2 >
 - 0 = start /stop with < with ramp >
 - 1 = start /stop toggle mode
 - 2 disable (with ramp)
 - 3 disable + freewheel
 - 4 current limit with analog voltage 0-5V
 - 5 current limit with analog voltage 0-10V
13. input 2 config. 0-3 < 3 >
 - 0 = start /stop with < with ramp >
 - 1 = start /stop toggle mode
 - 2 disable (with ramp)
 - 3 disable + freewheel

MONITOR

1. PWM 0-255 < 255 = 100% >
2. Motor current 1 = 1A
3. Brake current 1 = 1A
4. Im ADC in 0.16A / digit
5. Supply voltage 0.078V / digit
6. Temp.
7. Set ADC input < 1024 = 100% set value >
8. nc
9. nc

TECHNICAL DATA EM-295C v3

Supply voltage nom. 12-48V max. 10-58Vdc
 Overvoltage shut down max. 60V (adjustable)
 Motor cur. cont. max 25A ($T_a < 50^\circ C$ & pwm 2kHz)
 Motor cur. cont. max 20A ($T_a < 50^\circ C$ & pwm 16kHz)
 Motor cur. peak max 40A (10s.)
 Voltage drop typ. 0.7V at full speed
 PWM frequency 2kHz or 16kHz
 Start ramp 0.25 s. adjustable
 Stop ramp 0.25 s. adjustable
 Control range 0-5V or 0-10V, adjustable
 Output range 0-10V...0-55V
 Output 1 NPN open col. with 2.2k pull up
 Output 1 max. 3A (diode for ind. load)
 Ind. output pin 11 PNP open. coll 12v max 10mA
 Control input 1, PNP, Rin 100kohm
 Control input 2, PNP, Rin 10kohm
 Control input levels "low" < 1V, "high" > 4V
 Connectors supply and power 2.5mm
 Connectors control 1mm
 EMC EN-50081-2 & EN-50082-2 (industrial)
 Weight 80g
 Operating temp (T_a) -40..70°C



COMPANY		
ELECTROMEN OY		
DRAWN	DATE	TITLE
K.M.K file 295Cv11	16.9.2021	1 of 1 WIRING & DIMENSIONS EM-295C DC-MOTOR DRIVER