

AUTRONIC SM4 - Input / Output Pin Functions

Pin Name	Pin Number	I / O	Main function / Characteristic	Alternate function / Characteristic	Usage Limits / Characteristic
Injector 1	17	Output	Injector control with Group 1-4 selectable Peak/Hold current (High = 4Amp/1Amp) or (Low = 2Amp/0.5Amp) ¹	Nil	Outputs are ON/OFF or 10Hz only PWM functions. (Other PWM frequencies not allowed). Switch inputs are switch to Ground type
Injector 2	32	Output			
Injector 3	31	Output			
Injector 4	16	Output			
Injector 5	4	Output			
Injector 6 / Switch 1	18	Output or Input	Injector control with Group 5-8 selectable Peak/Hold current (High = 4Amp/1Amp) or (Low = 2Amp/0.5Amp) ¹	Switch Inputs with ECU internal Pull-up resistor, (SW1 - 700Hz max, SW2/3 - 200Hz max frequencies) or, Outputs with same current as Injector group	
Injector 7 / Switch 2	3	Output or Input			
Injector 8 / Switch 3	2	Output or Input			
Ignition 1	5	Output	Ignition trigger control, Push / Pull driver, 0.8A cont. (1A peak) per Ignition	Nil	Only 10Hz PWM or ON/OFF functions
Ignition 2	6	Output			
Ignition 3	19	Output			
Ignition 4	33	Output			
Output 1	7	Output	Stepper motor (4 or 6 wire), Push / Pull driver, 0.8A cont. (1A peak) per Output	Output with Push / Pull driver, 0.8A cont. (1A peak) per Output	Outputs are ON/OFF, 10-500Hz PWM or H-Bridge. Multi-Select 10-500Hz PWM outputs & parallel connect the O/P pins to increase drive current
Output 2	34	Output			
Output 3	20	Output			
Output 4	35	Output	Open-collector, 2.5 Amp per Output. Constant or Switched power supply		
Output 5	27	Output			
Output 6	13	Output			
Output 7	42	Output	Open-collector, 3.5 Amp		
Output 8	12	Output	Tacho, Open-collector, 1A	Constant or Switched supply	
PWM 1	28	Output	Open-collector 9.5-1220 Hz PWM, 5A cont. (6A peak)		
PWM 2	14	Output	Open-collector 9.5-1220 Hz PWM, 3.5Amp cont. (5A peak)		
HSI 1	10	Input	Speed inputs or Camshaft position inputs	Switch or Digital Airflow	7 kHz max
HSI 2	24	Input		Switch or Digital Flex fuel	
HSI 3	39	Input	Speed input ³	Switch ³	2.2 kHz max ³
Analog 1	8	Input	Spare temp / pressure	Temperature / Pressure, Control potentiometers, High-side switches	2 wire sensors require Pull-up resistor
Analog 2	38	Input	External MAP / BARO		
O2	37	Input	Air fuel ratio input		
TPS	21	Input	Throttle position input	Nil	Linear, voltage rising with TPS opening
Air intake temperature	23	Input	Air intake temperature	Nil	Autronic & most NTC & PTC sensors
Coolant temperature	9	Input	Coolant temperature	Nil	Most NTC or PTC sensors
Sync	26	+ve Input	Sync input (Hall / Reluctor)	Speed input	7 kHz max Scope function
	41	-ve Input ²			
Cylinder	25	+ve Input	Hall or Reluctor sensor, Generic and OEM trigger patterns		
	40	-ve Input ²			
+5v sensor supply	36	Supply output	Supply for TPS and other sensors	Nil	45 mA max
+8v trigger supply	11	Supply output	Supply for Hall & other sensors	Nil	30 mA max
Signal Gnd	22	Input	Sensor Ground	Nil	Do not connect to engine block or vehicle ground
Ign Switch I/P	1	Supply Input	Ignition "on" power supply	Nil	< 100mA
+12v SUPPLY	15	Supply Input	Main Power supply ⁴	Nil	Current drain is application dependant
+12v RAM supply	30	Continuous power input	Keep alive memory supply	Nil	< 1mA
Gnd	29	Supply gnd	Power supply ground	Nil	12-Oct-2016

Note: ¹ A high current injector drive version is available on special order. Each group is selectable 8A / 2A or 4A/1A (Peak/Hold).

² For Hall sensors, do not connect the -ve input.

³ For 'Dual Cal' ECUs this pin is the dedicated calibration select switch input and is therefore not available as a speed input.

⁴ ECU measured voltage at pin 15 is the battery voltage used for injector dead time compensation. Its supply must be same as injectors.