



	EMU PRO-16	EMU PRO-8	EMU BLACK	EMU CLASSIC
Operating temperature range:	AECQ100 GRADE1 (-40 to +125°C)	AECQ100 GRADE1 (-40 to +125°C)	AECQ100 GRADE2 (-40 to +105°C)	AECQ100 GRADE2 (-40 to +105°C)
Water and dust resistant:	IP 65	IP 65	IP60	IP60
Connector:	4x AMP Superseal (120 pins)	3x AMP Superseal (96 pins)	2x FCI automotive (63 pins)	2x FCI automotive (48 pins)
Injectors:	16x peak and hold (8A)	8x peak and hold (8A)	Up to 8x HiZ (5A)*	6 HiZ (5A)
Ignition outputs:	12x active or 10 passive coils (15A) (software selectable)	8x active or passive coils (15A) (software selectable)	6x active or passive coils (7A) (software selectable)	6x active or passive coils (7A) (software selectable)
Auxiliary outputs:	16x low-side (5A) (protected, short circuit and open circuit diagnostic, current control)	12x low-side (5A) (protected, short circuit and open circuit diagnostic, current control)	Up to 6x low-side (5A)* 1x dedicated WBO heater (5A) (protected)	6x low-side (5A) 1x dedicated WBO heater (5A) (protected)
H-bridges:	4x full H-bridge (8A) (protected, diagnostic)	3x full H-bridge (8A) (protected, diagnostic)	2x full H-bridge (7A) (protected)	2x full H-bridge (0.8A) (protected)
+5V sources:	2x 500 milliamps (two independent)	2x 500 milliamps (two independent)	1x 500 milliamps	1x 500 milliamps
Analog inputs:	20x 12 bits with software selectable pullups/pulldowns 8x16 bits high precision with software selectable pullups/pulldowns (single or differential)	16x 12 bits with software selectable pullups/pulldowns 4x16 bits high precision with software selectable pullups/pulldowns (single or differential)	9x 10 bits, with software selectable pullups/pulldowns 2x EGT dedicated inputs (K-Type thermocouple)	7x10 bits 2x EGT dedicated inputs (K-Type thermocouple)
Digital inputs:	10x inputs for VR or HALL sensors (software selectable)	8x inputs for VR or HALL sensors (software selectable)	3x inputs for VR or HALL sensors (software selectable) 3x switch to ground inputs	3x inputs for VR or HALL sensors (software selectable)
Direct injection:	Up to 8x injectors Requires external module	Up to 8x injectors Requires external module	No	No
Lambda controllers:	2x LSU 4.9	2x LSU 4.9	1x LSU 4.9 or LSU 4.2	1x LSU 4.2
DBW controllers:	2x	2x	1x	Requires external module
VVT controllers:	4x	4x	2x	2x
Knock sensors:	2 inputs	2 inputs	2 inputs	2 inputs
CAN-bus:	2x CAN 2.0 A/B	2x CAN 2.0 A/B	1x CAN 2.0 A/B	Requires external module
LIN-bus:	1x	1x	No	No
Realtime PC data-logging:	Yes	Yes	Yes	Yes
External data-logging:	To USB flash drive	To USB flash drive	Requires external module	Requires external module
Data-logging frequency:	Up to 500 Hz	Up to 500 Hz	25Hz	20Hz
PC connectivity:	CAN**	CAN**	Micro USB	USB A
All features unlocked:	Yes	Yes	Yes	Yes
Free software updates:	Yes	Yes	Yes	Yes

* Two auxiliary outputs can be used as injector outputs ** Requires CAN adapter ECUMASTER USBtoCAN, Peak CAN or Kvaser)