ECU MASTER

| | 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 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)