

## Geartronics Paddleshift GCU1 25-way AMP pinout description

Pin #	Function	Comments	Wire gauge	Standard colour
1	Gear position 5v supply	5v regulated sensor supply - may also be used for secondary throttle sensor	22	Red
2	Gear position ground	Internally connected to power ground	22	Black
3	Throttle position ground	Isolated' sensor ground. Can be tied to power ground by internal jumper	22	Black
4	Pressure sensor signal	0-5v analogue input	22	Pink
5	Emergency switch	Enables emergency mode when switched to ground	22	Orange
6	Neutral interlock button	Button function replaces mechanical interlock cable	22	Blue
7	Blip valve output	Pulls to ground when active	22	Pink
8	Compressor relay output	Pulls to ground when active	22	Blue
9	Tacho input	Accepts open-collector, 5v or 12v signals - check internal jumpers!	22	White
10	Ignition coils 12v in	Used only when cutting ignition coils directly	20	Red
11	Ground	Signal ground used for switches/buttons etc	20	Black
12	Gear cut request	Cut request signal to engine ECU (pulls to ground when active)	22	Green
13	Power ground	GCU power ground - connect to chassis or battery negative terminal	22	Black
14	Gear position signal	0-5v analogue input - do NOT share with other devices!	22	White
15	Throttle position signal	Usually spliced to engine TPS signal	22	Yellow
16	Clutch input	Optional. May be used instead of neutral interlock button	22	White
17	Ground	Signal ground usually used for paddles & pressure sensor	22	Black
18	Up paddle	Digital input for up paddle (active when switched to ground)	22	Red
19	Down paddle	Digital input for down paddle (active when switched to ground)	22	White
20	Up valve output	Pulls to ground when active	22	Purple
21	Down valve output	Pulls to ground when active	22	Grey
22	Mode switch	Used to enable automatic mode (optional)	22	Brown
23	Ignition coils 12v out	Used only when cutting ignition coils directly	20	White
24	12v sensor supply	12v supply for valves, compressor relay & pressure sensor	22	Red
25	12v Supply	12v GCU supply - must come 'live' at the same time as engine ECU	20	Red

### Notes:

1. All outputs are low-side switches (switch to ground) - switched device has 12v supply.
2. Paddle & switch inputs are active when switched to ground
3. TPS analogue input is high impedance differential input that uses an isolated 'ground' on pin 3  
Pin 3 should be connected to the engine ECU sensor 0v
4. Gear position sensor must connect only to GCU pins 1, 2 & 14 - do NOT connect the sensor to any other device except Geartronics gear indicator!
5. Pins 10 & 23 are only used when engine ECU does not have a suitable gear cut function.
6. Pin 12 connects to engine ECU gear cut input. Default polarity is 'active low' but may be reversed in software.
7. Pin 5 should be connected to a dashboard switch to enable emergency mode - in this mode, the closed-loop functionality is disabled and is to be used strictly as a 'limp home mode'