

| Black | EMU Name         | M54 Device           | Requires 12v | Requires +5V | ECU Harness Color | Deutch 47 |   | Engine Harness Color |                         |
|-------|------------------|----------------------|--------------|--------------|-------------------|-----------|---|----------------------|-------------------------|
| 1     | Ignition Coil #5 | Coil 5               | ☑            | ☐            | GN                | 10        | ☑ |                      |                         |
| 2     | EGT #1           | EGT 1                | ☐            | ☐            | BLK 20            | 20        | ☑ |                      |                         |
| 3     | Knock Sensor #1  | Knock Bank 1         | ☐            | ☐            | WT/BU tp          | 44        | ☐ |                      |                         |
| 4     | Analog In #2     | Throttle Body POS NV | ☐            | ☑            | GY/Y              | 32        | ☑ |                      | VDO-BMW 408-238-426-001 |
| 5     | CLT In           | Coolent Temp         | ☐            | ☐            | WHT/GN            | 47        | ☑ | Wht/BRN Red/BRN      |                         |
| 6     | WBO Vs           | WBO O2 Vs            | ☐            | ☐            | PNK/GN            | WBO-6     | ☐ |                      |                         |
| 7     | Camsync #2       | Cam Sync Signal      | ☑            | ☐            | Dark BU           | 46        | ☐ |                      |                         |
| 8     | Primary Trigger  | Crank Sync           | ☐            | ☐            | WHT/BU            | 40        | ☑ |                      |                         |
| 9     | Flex Fuel In     | UNUSED               | ☐            | ☐            |                   |           | ☐ |                      |                         |
| 10    | Switch In #1     | Oil Pressure Switch  | ☐            | ☐            | PNK/BLK           | 19        | ☑ |                      |                         |
| 11    | RS232 TXD        | RS232 TXD            | ☐            | ☐            | OR                | ADU-      | ☐ |                      |                         |
| 12    | CAN H            | CAN H                | ☐            | ☐            | PNK/GY            |           | ☐ |                      |                         |
| 13    | Battery +12V     | PMU                  | ☐            | ☐            | R                 |           | ☐ |                      |                         |
| 14    | Ignition Coil #4 | Coil 4               | ☐            | ☐            | BU                | 9         | ☑ |                      |                         |
| 15    | EGT #2           | EGT 2                | ☐            | ☐            | WT/BU tp          | 35        | ☑ |                      |                         |
| 16    | Knock Sensor #2  | Knock Bank 2         | ☐            | ☐            | WT/G              | 45        | ☐ |                      |                         |
| 17    | Analog In #3     | PPS POS INV          | ☐            | ☑            | RD/WT/RED         | POS       | ☐ |                      |                         |
| 18    | TPS In           | PPS POS              | ☐            | ☑            | RD/WT             | POS       | ☐ |                      |                         |
| 19    | WBO Ip           | WBO Ip               | ☐            | ☐            | WT/BLK            | WBO-1     | ☐ |                      |                         |
| 20    | VSS In           | UNUSED               | ☐            | ☐            |                   |           | ☐ |                      |                         |
| 21    | Camsync #1       | Cam Sync 2           | ☑            | ☐            | GY/OR             | 36        | ☑ |                      |                         |
| 22    | WBO Rcal         | WBO Rcal             | ☐            | ☐            | WHT               | WBO-5     | ☐ |                      |                         |
| 23    | Switch In #2     | Brake Switch         | ☐            | ☐            | VI/WHT            | C1-4      | ☐ | Brn/Gn               |                         |
| 24    | RS232 RXD        | RS232 RXD            | ☐            | ☐            | BU                | ADU       | ☐ |                      |                         |
| 25    | CAN L            | CAN L                | ☐            | ☐            | GY/BLK            |           | ☐ |                      |                         |
| 26    | 5V Supply        | PPS and Throttle 5V  | ☐            | ☑            | R/WHT Pair        | POS       | ☐ |                      |                         |
| 27    | Power Ground     | Cabin GND            | ☐            | ☐            | BLK               |           | ☐ |                      |                         |
| 28    | ECU Ground       | Cabin GND            | ☐            | ☐            | BLK               |           | ☐ |                      |                         |
| 29    | Sensor Ground    | Sensor GND           | ☐            | ☐            | GY/GN             | 43        | ☐ |                      |                         |
| 30    | Analog In #4     | Oil Pressure         | ☐            | ☑            | GY/RD             | 41        | ☑ |                      |                         |
| 31    | Analog In 1      | Throttle Body POS    | ☐            | ☑            | PNK               | 33        | ☑ |                      | VDO-BMW 408-238-426-001 |
| 32    | IAT In           | IAT                  | ☐            | ☐            | WHT/R             | 30        | ☑ |                      |                         |
| 33    | WBO VGND         | WBO VGND             | ☐            | ☐            | BRN               | WBO2      | ☐ |                      |                         |
| 34    | 5V Supply        | 5v out               | ☐            | ☐            | PNK/WT            | 38        | ☑ |                      |                         |
| 35    | Analog In #5     | Fuel Pressure Sig    | ☑            | ☐            | GY                | 39        | ☑ |                      |                         |
| 36    | Switch In #3     | Clutch Switch        | ☐            | ☐            | PNK/BLK           | C1-2      | ☐ | Pnk/GN               |                         |
| 37    | Analog In #6     | Oil Temperture       | ☐            | ☑            | VI                | 37        | ☑ |                      |                         |
| 38    | Sensor Ground    | PPS GND              | ☐            | ☐            | R/WHT/BLK         | POS       | ☐ |                      |                         |

|    |                  |                        |                                     |                          |        |       |                                     |         |                         |
|----|------------------|------------------------|-------------------------------------|--------------------------|--------|-------|-------------------------------------|---------|-------------------------|
| 39 | Sensor Ground    | Throttle Body          | <input type="checkbox"/>            | <input type="checkbox"/> | BRN    | 7     | <input type="checkbox"/>            |         | VDO-BMW 408-238-426-001 |
| 1  | Ignition Coil #6 | Coil 6                 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Y      | 11    | <input checked="" type="checkbox"/> |         |                         |
| 2  | H-Bridge #1 A    | Throtte Stepper A      | <input type="checkbox"/>            | <input type="checkbox"/> | VI/GY  | 22    | <input checked="" type="checkbox"/> |         | VDO-BMW 408-238-426-001 |
| 3  | H-Bridge #2 A    | Accusump               | <input checked="" type="checkbox"/> | <input type="checkbox"/> | BRN    | C1-7  | <input checked="" type="checkbox"/> |         |                         |
| 4  | Aux 6            | Vanos Intake           | <input type="checkbox"/>            | <input type="checkbox"/> | GY     | 18    | <input type="checkbox"/>            | Grn/Bu  |                         |
| 5  | Aux 3            | Vanos Exhaust          | <input type="checkbox"/>            | <input type="checkbox"/> | WT 20  | 29    | <input type="checkbox"/>            | Wht/Blk |                         |
| 6  | Injector #4      | Injector 4             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Y/RD   | 24    | <input checked="" type="checkbox"/> |         |                         |
| 7  | Injector #1      | Injector 1             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | VI/PNK | 12    | <input checked="" type="checkbox"/> |         |                         |
| 8  | Ignition Coil #1 | Coil 1                 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | PNK    | 2     | <input type="checkbox"/>            |         |                         |
| 9  | Ignition Coil #3 | Coil 3                 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | WHT 16 | 8     | <input type="checkbox"/>            |         |                         |
| 10 | H-Bridge #1 B    | Throttle Stepper B     | <input type="checkbox"/>            | <input type="checkbox"/> | Y/BLK  | 23    | <input checked="" type="checkbox"/> |         | VDO-BMW 408-238-426-001 |
| 11 | H-Bridge #2 B    | Check Engine Light     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | VI/GRN | C1-3  | <input type="checkbox"/>            |         |                         |
| 12 | Aux 5            | ICV A                  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | BU     | 16    | <input checked="" type="checkbox"/> |         |                         |
| 13 | Aux 2            | ICV B                  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Y/BU   | 17    | <input checked="" type="checkbox"/> |         |                         |
| 14 | Injector #5      | Injector 5             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Y/WHT  | 25    | <input checked="" type="checkbox"/> |         |                         |
| 15 | Injector #2      | Injector 2             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Y/BR   | 13    | <input checked="" type="checkbox"/> |         |                         |
| 16 | Ignition #2      | Coil 2                 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | RD 20  | 3     | <input type="checkbox"/>            |         |                         |
| 17 | Power Ground     | Cabin GND              | <input type="checkbox"/>            | <input type="checkbox"/> | BLK    |       | <input type="checkbox"/>            |         |                         |
| 18 | Ignition 12V     | PMU                    | <input type="checkbox"/>            | <input type="checkbox"/> | RD     |       | <input type="checkbox"/>            |         |                         |
| 19 | WBO Heater       | WBO Heater             | <input type="checkbox"/>            | <input type="checkbox"/> | BRN    | WBO-3 | <input type="checkbox"/>            |         |                         |
| 20 | Aux 4            | DISA Valve (Needs 12v) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Y/GN   | 15    | <input checked="" type="checkbox"/> |         |                         |
| 21 | Aux 1            | ABS                    | <input type="checkbox"/>            | <input type="checkbox"/> | V/BLK  | C1-5  | <input type="checkbox"/>            | Wht     |                         |
| 22 | Injector #6      | Injector 6             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | VI/RD  | 26    | <input checked="" type="checkbox"/> |         |                         |
| 23 | Injector #3      | Injector 3             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | OR     | 14    | <input checked="" type="checkbox"/> |         |                         |
| 24 | Power Ground     | Cabin GND              | <input type="checkbox"/>            | <input type="checkbox"/> | BLK    |       | <input type="checkbox"/>            |         |                         |