|  |  |  |  |
| --- | --- | --- | --- |
| 3D sonic anemometer: CSAT3 (Campbell Scientific; Logan UT) | | | |
| SDM data | green | SDM-C1 |  |
| SDM clock | white | SDM-C2 |  |
| SDM enable | brown | SDM-C3 |  |
| SDM ref | black | G |  |
| SDM shield | clear |  |  |
| power | red | 12V |  |
| power ground | black | G |  |
| power shield | clear | G |  |
| Infrared gas analyzer (IRGA): LI-7500 (LI-COR, Inc.; Lincoln, NE) | | | |
| SDM data | gray | SDM-C1 |  |
| SDM clock | blue | SDM-C2 |  |
| SDM enable | brown | SDM-C3 |  |
| SDM ref | black | G |  |
| shield | white |  |  |
| power | red/white |  | (+) 13.8vDC ext power supply |
| power ground | green |  | (-) 13.8vDC ext power supply |
| Temp & relative humidity probe: HMP45AC (Vaisala, vendor: Campbell Scientific) | | | |
| temp signal | yellow | D19H |  |
| RH signal | blue | D20H |  |
| signal ref | white | D19L/D20L |  |
| shield | clear |  |  |
| power | red | 12V |  |
| power ground | black | G |  |
| Barometric pressure transmitter: PTB101B (Campbell Scientific; Logan, UT) | | | |
| signal output | brown | D6H |  |
| signal ref | white | D6L |  |
| shield | clear |  |  |
| control | green | C2 |  |
| power | red | 12V |  |
| ground | black | G |  |
| Solid state relay for pump, 120VAC: 120D10 (Opto 22; Temecula, CA) | | | |
| #1 | black |  | Pump outlet, small slot |
| #2 | black |  | Hot lead from AC power |
| #3 | red |  | Relay rack: Field 7 |
| #4 | black |  | (-) 13.8vDC ext power supply |
| Three-way 12V solenoid valves: 091-0094-900 (Parker Hannifin Corp.; Cleveland, OH) | | | |
| UP valve | white |  | Relay rack: Field 3 |
| DN valve | red |  | Relay rack: Field 5 |
| both valves | black |  | (-) 13.8vDC ext power supply |
| Two-way NC 12V solenoid valve: C-01367-70 (Cole Parmer; Vernon Hills, IL) | | | |
| one wire | yellow |  | Relay rack: Field 9 |
| other wire | yellow |  | (-) 13.8vDC ext power supply |
| 4-channel relay rack: G4PB4R/G4ODC5 (Opto 22; Temecula, CA) | | | |
| Control 2 |  | C5 |  |
| Control 3 | black | G |  |
| Control 4 |  | C6 |  |
| Control 5 | black |  | jumper to Control 3 |
| Control 6 |  | C7 |  |
| Control 7 | black |  | jumper to Control 5 |
| Control 8 |  | C8 |  |
| Control 9 | black |  | jumper to Control 7 |
| Field 2 | red |  | jumper to Field 4 |
| Field 3 | white |  | Three-way 12V solenoid valve (UP) |
| Field 4 | red |  | jumper to Field 7 |
| Field 5 | red |  | Three-way 12V solenoid valve (DN) |
| Field 6 | red |  | (+) 13.8vDC ext power supply |
| Field 7 | red |  | Solid state relay: #3 (+) |
| Field 8 | red |  | jumper to 6 |
| Field 9 | yellow |  | Two-way 12V solenoid valve |
| Bipolar +/-15V power supply: REL110-2005 (Astrodyne; Mansfield, MA) | | | |
| +15v | red |  | 0-10 sLPM MFCs: +15 power (purple)  0-5 sLPM MFC: +15 power (red) |
| common | black |  | 0-10 sLPM MFCs: power common (blue)  0-5 sLPM MFC: power common (white) |
| -15v | red |  | 0-10 sLPM MFCs: -15 power (red)  0-5 sLPM MFC: -15 power (black) |
| External battery and charger/power supply: PS12 (Campbell Scientific; Logan, UT) | | | |
|  |  | G | “POWER IN” |
| +12 |  | 12V | “POWER IN” |
| CHG |  |  | (+15) Bipolar +/-15V power supply |
| CHG |  |  | (com) Bipolar +/-15V power supply |
| EXT BATT + |  |  | Ext rechargeable 12V battery: + |
| EXT BATT - |  |  | Ext rechargeable 12V battery: - |
| 12V fan for data logger housing | | | |
| power | red | SW12 |  |
| ground | black | G |  |
| Mass flow controllers, 0-10 sLPM: AFCS-010001 (Aalborg; Orangeburg, NY) | | | |
| TTL control, both | out green | C1 |  |
| control set, both | outer red | CAO1 |  |
| control com, both | in yellow |  |  |
| chassis grnd, both | out brown | G |  |
| output signal, UP | in green | D11H |  |
| output grnd, UP | out ornge | D11L |  |
| output signal, DN | in green | D12H |  |
| output grnd, DN | out ornge | D12L |  |
| power -15V, both | inner red |  | Bipolar power supply: -15V |
| power com, both | blue |  | Bipolar power supply: common |
| power +15V, both | purple |  | Bipolar power supply: +15V |
| Mass flow controller, 0-5 sLPM: FC-260 (Millipore, formerly Tylan General; Allen, TX) | | | |
| control set | green | CAO2 |  |
| output | brown | SE25 |  |
| power -15v | black |  | Bipolar power supply: -15V |
| power common | white |  | Bipolar power supply: common |
| power +15v | red |  | Bipolar power supply: +15V |