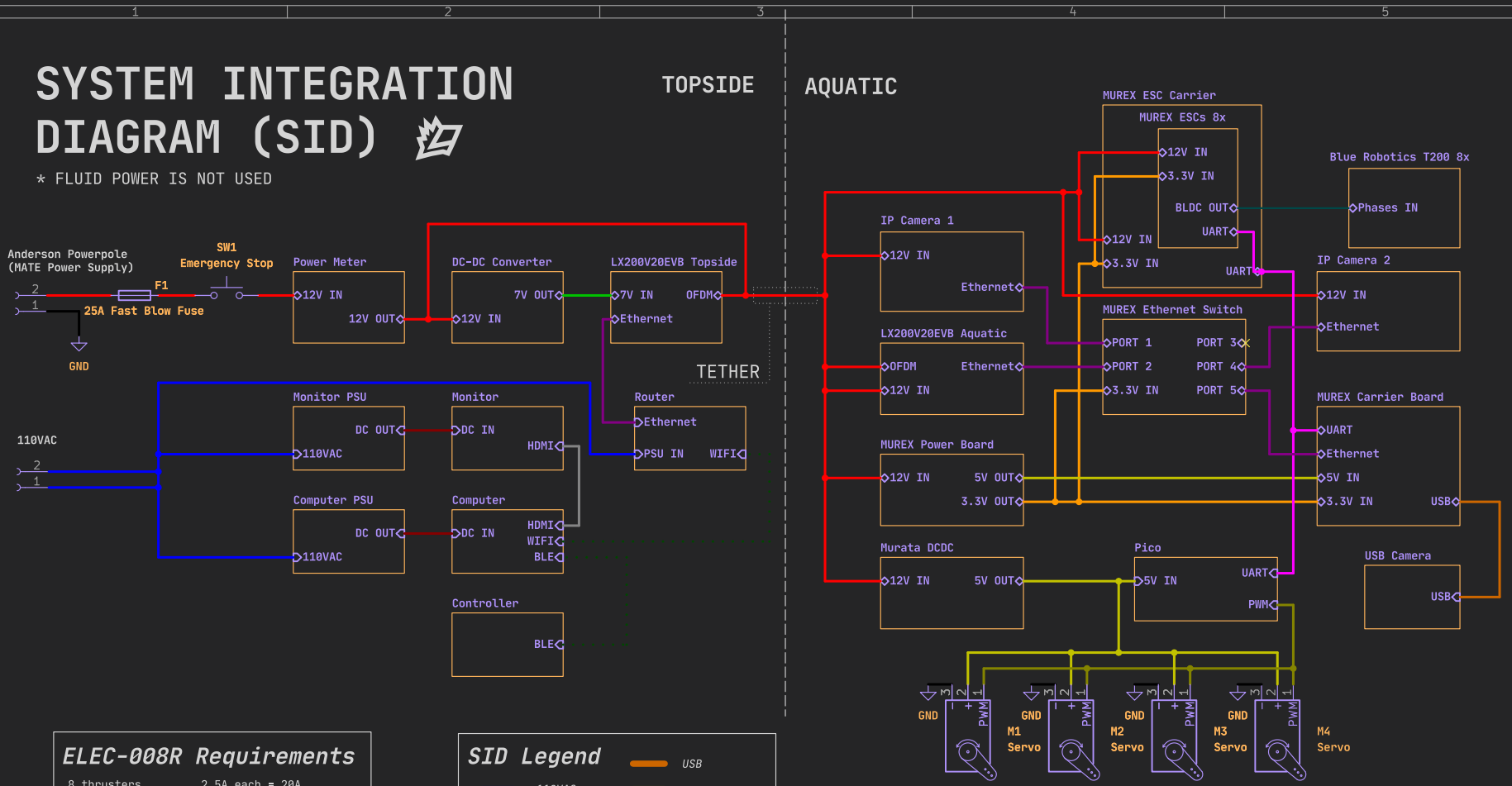
SYSTEM INTEGRATION DIAGRAM (SID)

* FLUID POWER IS NOT USED



ELEC-008R Requirements

8 thrusters	2.5A each	= 20A
3 cameras	0.2A each	= 0.6A
8 ESCs	0.05A each	= 0.4A
1 ethernet switch	0.1A	= 0.1A
1 control board	0.2A	= 0.2A
4 servos	0.8A each	= 3.2A
2 PLC modules	0.1A each	= 0.2A
Total Amps	24.7A * 150%	= 37.1A

Fuse Selected: 25A ATO

SID Legend

- 110VAC
- PSUs DC
- 12VDC
- Ethernet
- 3.3VDC
- PWM
- USB
- 5VDC
- GND
- UART (MASCP)
- BLDC Phases
- Wireless
- 7VDC

MUREX ROV V3
SYSTEM INTEGRATION DIAGRAM (SID)

MUREX ROBOTICS

Sheet: /
File: SID.kicad_sch

Title: System Integration Diagram

Size: User	Date: 2024-05-11	**Rev: V3**
KiCad E.D.A. 8.99.0-166-g4602a27eb8		Id: 1/22

◇12V IN
◇12V OUT

Sheet: /Power Meter/
File: power_meter.kicad_sch

Title:

Size: User	Date:	**Rev:**
KiCad E.D.A. 8.99.0-166-g4602a27eb8		Id: 2/22

◇Ethernet
◇5V IN
◇OFDM

Sheet: /LX200V20EVB Topside/
File: lx200v20evb_topside.kicad_sch

Title:

Size: User	Date:	**Rev:**
KiCad E.D.A. 8.99.0-166-g4602a27eb8		Id: 3/22

◇12V IN
◇5V OUT

Sheet: /DC-DC Converter/
File: dcdc_converter.kicad_sch

Title:

Size: User	Date:	**Rev:**
KiCad E.D.A. 8.99.0-166-g4602a27eb8		Id: 4/22

110VAC

DC OUT

Sheet: /Monitor PSU/
File: monitor_psu.kicad_sch

Title:

Size: User	Date:	**Rev:**
KiCad E.D.A. 8.99.0-166-g4602a27eb8		Id: 5/22

Sheet: /Computer PSU/		
File: computer_psu.kicad_sch		
Title:		
Size: User	Date:	**Rev:**
KiCad E.D.A. 8.99.0-166-g4602a27eb8		Id: 6/22

DC IN

BLE
HDMI
WIFI

Sheet: /Computer/		
File: computer.kicad_sch		
Title:		
Size: User	Date:	**Rev:**
KiCad E.D.A. 8.99.0-166-g4602a27eb8		Id: 7/22

DC IN

HDMI

Sheet: /Monitor/		
File: monitor.kicad_sch		
Title:		
Size: User	Date:	**Rev:**
KiCad E.D.A. 8.99.0-166-g4602a27eb8		Id: 8/22

◇Ethernet
◇12V IN
◇OFDM

Sheet: /LX200V20EVB Aquatic/
File: lx200v20evb_aquatic.kicad_sch

Title:

Size: User	Date:	**Rev:**
KiCad E.D.A. 8.99.0-166-g4602a27eb8		Id: 9/22

◇Ethernet
◇5V IN ◇3.3V IN
◇PWM
◇UART
◇USB

Sheet: /MUREX Carrier Board/		
File: carrier_board.kicad_sch		
Title:		
Size: User	Date:	**Rev:**
KiCad E.D.A. 8.99.0-166-g4602a27eb8		Id: 10/22

◇12V IN
◇5V OUT

Sheet: /MUREX Power Board/
File: power_board.kicad_sch

Title:

Size: User	Date:	**Rev:**
KiCad E.D.A. 8.99.0-166-g4602a27eb8		Id: 11/22

◇3.3V IN
◇PORT 1
◇PORT 2
◇PORT 3
◇PORT 4
◇PORT 5

Sheet: /MUREX Ethernet Switch/
File: ethernet_switch.kicad_sch

Title:

Size: User	Date:	**Rev:**
KiCad E.D.A. 8.99.0-166-g4602a27eb8		Id: 12/22

◇UART
◇12V IN
◇3.3V IN

Sheet: /MUREX ESC Carrier/
File: esc_carrier.kicad_sch

Title:

Size: User	Date:	**Rev:**
KiCad E.D.A. 8.99.0-166-g4602a27eb8		Id: 13/22

◇UART
◇12V IN
◇3.3V IN
◇Thrusters OUT

Sheet: /MUREX ESCs 8x/
File: escs.kicad_sch

Title:

Size: User	Date:	**Rev:**
KiCad E.D.A. 8.99.0-166-g4602a27eb8		Id: 14/22

◇Phases IN

Sheet: /Blue Robotics T200 8x/
File: t200s.kicad_sch

Title:

Size: User	Date:	**Rev:**
KiCad E.D.A. 8.99.0-166-g4602a27eb8		Id: 15/22

◇12V IN
◇Ethernet

Sheet: /IP Camera 1/
File: ip_camera.kicad_sch

Title:

Size: User	Date:	**Rev:**
KiCad E.D.A. 8.99.0-166-g4602a27eb8		Id: 16/22

◇12V IN
◇Ethernet

Sheet: /IP Camera 2/
File: ip_camera.kicad_sch

Title:

Size: User	Date:	**Rev:**
KiCad E.D.A. 8.99.0-166-g4602a27eb8		Id: 17/22

◇12V IN
◇5V OUT

Sheet: /Murata DCDC/
File: power_board.kicad_sch

Title:

Size: User	Date:	**Rev:**
KiCad E.D.A. 8.99.0-166-g4602a27eb8		Id: 18/22

5V IN

PWM

UART

Sheet: /Pico/
File: mascp_pico.kicad_sch

Title:

Size: User	Date:	**Rev:**
KiCad E.D.A. 8.99.0-166-g4602a27eb8		Id: 19/22

Sheet: /USB Camera/
File: usb_camera.kicad_sch

Title:

Size: User	Date:	**Rev:**
KiCad E.D.A. 8.99.0-166-g4602a27eb8		Id: 20/22

Sheet: /Controller/
File: controller.kicad_sch

Title:

Size: User	Date:	**Rev:**
KiCad E.D.A. 8.99.0-166-g4602a27eb8		Id: 21/22

PSU IN

Ethernet

WIFI

Sheet: /Router/		
File: router.kicad_sch		
Title:		
Size: User	Date:	**Rev:**
KiCad E.D.A. 8.99.0-166-g4602a27eb8		Id: 22/22