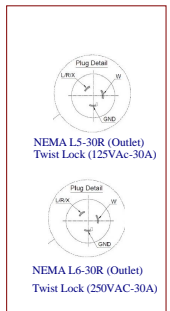
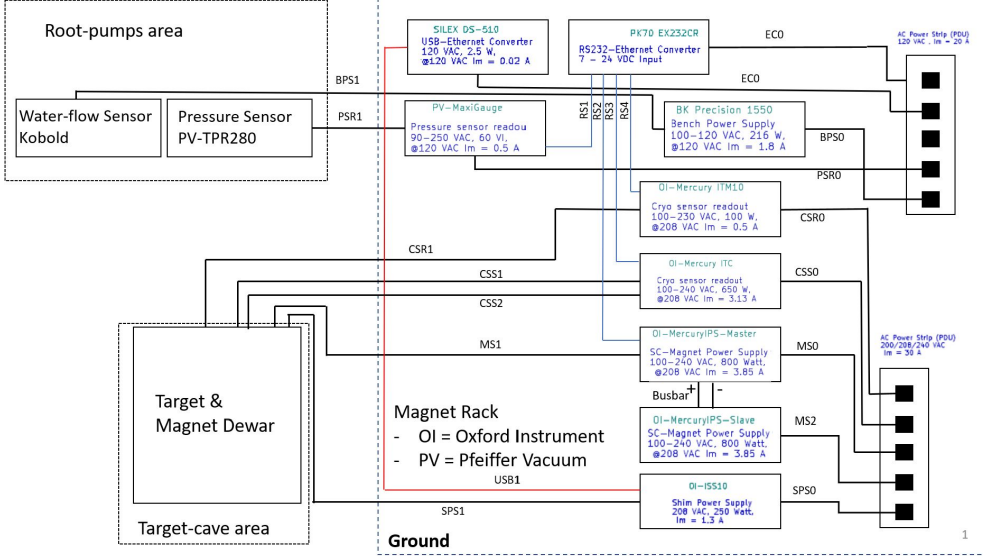


# Summary of the Magnet-Rack ORC

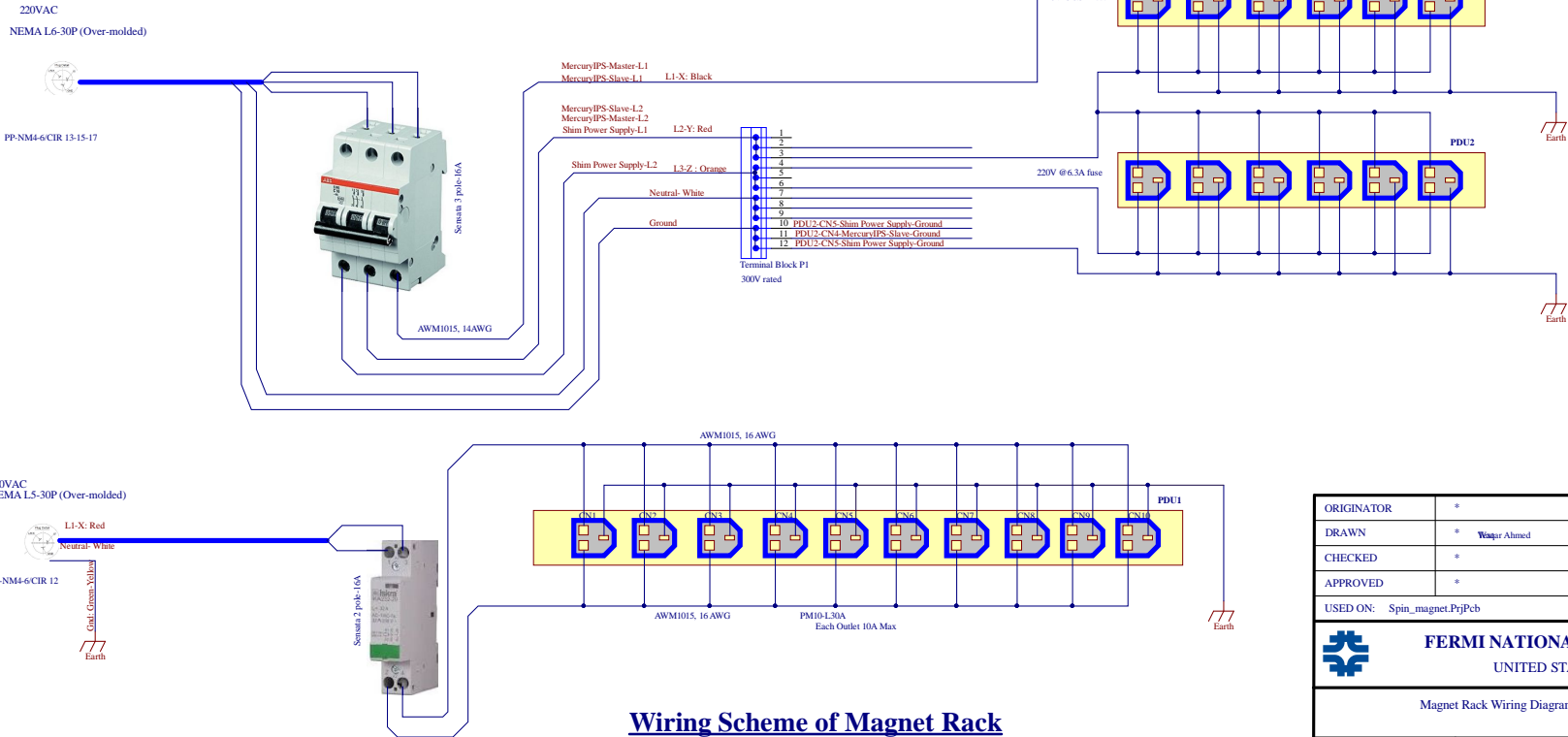
SpinQuest Experiment at NM4

Ahmed Waqar, Zulkaida Akbar, Dustin Keller

REV	DESCRIPTION	DRAWN	DATE
		APPROVED	DATE

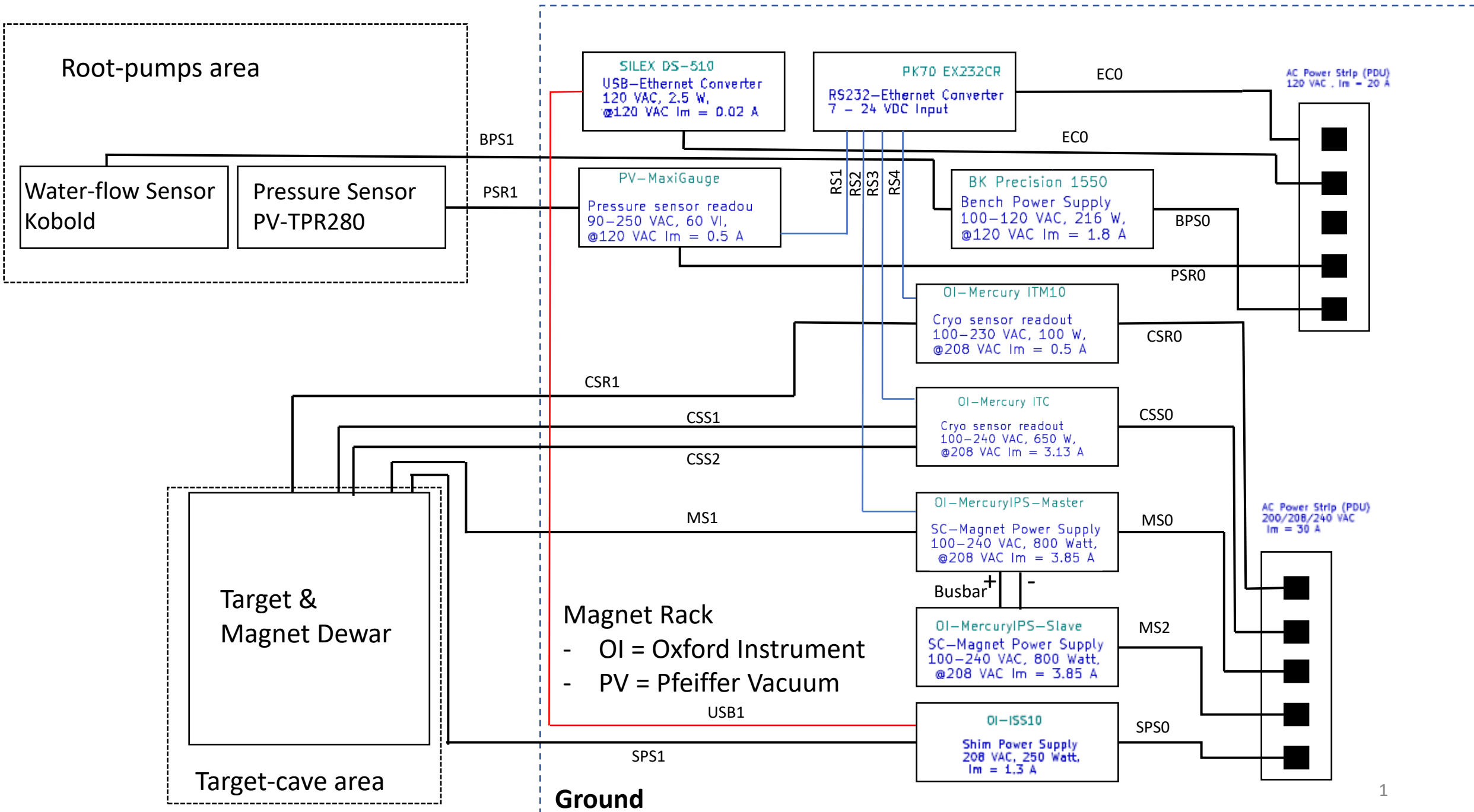


Magnet Outlet



Wiring Scheme of Magnet Rack

ORIGINATOR	*	
DRAWN	* Waqar Ahmed	
CHECKED	*	
APPROVED	*	
USED ON:	Spin_magnet.PrjPcb	
 <b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY		
Magnet Rack Wiring Diagram *		
SOFTWARE Altium NEXUS 2.1.7.73	DRAWING NUMBER *	REVISION *
DATE: 4/20/2021 11:59:40 AM	SHEET * of *	



Root-pumps area

Water-flow Sensor  
Kobold

Pressure Sensor  
PV-TPR280

SILEX DS-510  
USB-Ethernet Converter  
120 VAC, 2.5 W,  
@120 VAC Im = 0.02 A

PK70 EX232CR  
RS232-Ethernet Converter  
7 - 24 VDC Input

PV-MaxiGauge  
Pressure sensor readout  
90-250 VAC, 60 VI,  
@120 VAC Im = 0.5 A

BK Precision 1550  
Bench Power Supply  
100-120 VAC, 216 W,  
@120 VAC Im = 1.8 A

OI-Mercury ITM10  
Cryo sensor readout  
100-230 VAC, 100 W,  
@208 VAC Im = 0.5 A

OI-Mercury ITC  
Cryo sensor readout  
100-240 VAC, 650 W,  
@208 VAC Im = 3.13 A

OI-MercuryIPS-Master  
SC-Magnet Power Supply  
100-240 VAC, 800 Watt,  
@208 VAC Im = 3.85 A

OI-MercuryIPS-Slave  
SC-Magnet Power Supply  
100-240 VAC, 800 watt,  
@208 VAC Im = 3.85 A

OI-ISS10  
Shim Power Supply  
208 VAC, 250 Watt,  
Im = 1.3 A

AC Power Strip (PDU)  
120 VAC, Im = 20 A

AC Power Strip (PDU)  
200/208/240 VAC  
Im = 30 A

Magnet Rack  
- OI = Oxford Instrument  
- PV = Pfeiffer Vacuum

Target &  
Magnet Dewar

Target-cave area

Ground

Instruments powered from 208 VAC outlet:

Device	Power Consumption (W)	Maximum Current (A)
MercuryIPS – Master	800	3.85
MercuryIPS – Slave	800	3.85
Shim Power Supply	250	1.3
MercuryITC	650	3.13
ITM10	100	0.5
<b>Total</b>	<b>2.6 kW</b>	<b>12.63 A</b>

Instruments powered from 120 VAC outlet:

Device	Power Consumption (W)	Maximum Current (A)
PV-MaxiGauge	60	0.5
BK Precession 1550	216	1.8
NetBurner PK70EX-232CR	6.03	0.19
SILEX-DS150	10	0.4
<b>Total</b>	<b>292.03</b>	<b>2.89</b>