E1400132 LHO CO2P Install List March 25, 2014

COLOR CODE - dates correspond to when this was verified
Does not exist and should
Not installed
Installed but issues remain
Deliberately installed contrary to design - design or install will change
Installed correctly - no issues
Couldn't figure out status
Now defunct - added for completeness

CO2P LLO

Cables	X-arm	Y-arm	
	Power meter - cable installed. Box end NC	Power meter - not installed	
	QPD1 - cable installed. Box end NC	QPD not installed	
	QPD2 - cable installed. Box end NC	QPD2 not installed	
	PD1 cable - NC to PD	PD1 not installed	
	PD2 cable - NC to PD Thermopile -	PD2 not installed Thermopile connected - Feb 28	
	PZT -	PZT connected - Feb 28	
•	ISS analogue out to ADC: ontable	ISS analgoue out - on-table NC - gender	replaced hex screws on gend
	connected, Mar6	changer used	changer with longer ones
9	ISS analogue out to ADC - connected, Feb 28 ISS analogue in from DAC - ontable connected	ISS analogue out to ADC - connected, Feb 28 ISS analogue in from DAC - ontable connected	used short 0.16" hex nuts an
10	Mar 7	Feb 28	tightened with nut driver
	ISS analague out from DAC -pulled - Mar 19	ISS analague out from DAC -pulled - Mar 19	
12	HV cable on table - connected FT to box Mar 7	HV cable on table - connected Feb 28	
13	HV cable connected to feedtthrough - not to HV supply in CER - Mar 7	HV cable connected to feedtthrough - not to HV supply in CER - Mar 7	
	Power to ISS on table - connected thru	Power to ISS on table - connected Feb 28 (no	
14	feedthru - Mar 7	feed through)	
15	Power to ISS from rack - connectedthru feed thru -Mar 7	Power to ISS from rack - connected Feb 28 (no feed through)	
	Laser chiller splitter to AA chassis - pulled to	Laser chiller splitter to AA chassis - pulled to	Requires M-M DB9 gender
	chiller March 19 - installed	chiller March 19 - installed	changer at chiller
	AI to IO expansion - installed Mar 19	TTL to RF splitter connected - Feb 28	
	ISS to AOM in - installed on table NC to AOM		
	driver - Mar 7	ISS to AOM IN - not installed - Feb 28	
	not needed as driver is on-table	not needed as driver is on-table	
21	Rotation stage control cable - from stage to controller installed - Mar 4	Rotation stage control cable - from stage to controller installed - Feb 28	
22	Picomotor power - connected _ mar 4	Picomotor power - connected _ mar 4	
23	CO2 interlock box power connected - Feb 28	CO2 interlock box power connected - Feb 28	
24	AOM drive RF input from Mech Room ??	AOM drive RF input from Mech Room pulled - Mar 19	
	AOM power - pulled Mar 19	AOM power - pulled Mar 19	
	AOM drive to AOM - not installed - Feb 28	AOM drive to AOM - not installed - Feb 28	
27	AOM drive to feedthrough - not required - Feb	AOM drive to feedthrough - not required - Feb	
27	Laser RTD extension on table installed - NC to	28	
28	feedthrough	Laser RTD extension on table installed - Feb 28	
	Laser RTD extension to rack installed - Mar 7	Laser RTD extension to rack installed - Feb 28	
	Laser RF driver on table installed - Mar 7	Laser RF driver on table installed - Feb 28	
	Laser RF driver to rack installed - Mar 7 Laser RF driver on table installed - Mar 7	Laser RF driver to rack installed - Feb 28 Laser RF driver on table installed - Feb 28	
	Laser RF driver to rack installed - Mar 7	Laser RF driver to rack installed - Feb 28	
	Flow meter to interlock cable - pulled to chiller	Flow meter to interlock cable - pulled to chiller	
34	room - Mar 19	room - Mar 19	
35	EtherCAT to interlock cable installed - Mar 4	EtherCAT to interlock cable installed but not connected to interlock - Feb 28	
	AA to IO expansion - installed Mar 19	AA to IO expansion - installed Mar 19	
	Laser power cable on-table installed - Feb 28	Laser power cable on-table installed - Feb 28	
37	(nc at feedthrough, or driver) RF splitter on-tablepower, not installed - Feb	(nc at feedthrough) RF splitter on-tablepower, not installed - Feb	
38	28 - AC	28	
20	Db25 to 2x DB9 - Cable installedand connected - Mar 7	Db25 to 2x DB9 - Cable installed but missing	
39	- ridi /	end cap - Feb 28	needs gender changer on
40	Chiller to Interlock box in rack - pulled Mar 19	Chiller to Interlock box in rack - pulled Mar 19	controller end
41	Picomotor driver to feedthrough - installed - and connected - Mar 25	Picomotor driver to feedthrough - installed - Feb 28 (feedthrough not in)	
41	EtherCAT chassis to pcio driver - installed Feb	EtherCAT chassis to poio driver - installed Feb	
42	28	28	
13	EtherCAT chassis from pico driver - installed Feb 28	EtherCAT chassis from pico driver - installed Feb 28	
		TTL RF input to feedthru installed (panel	
44	TTL RF input installed - Mar 7	missing) - March 4	
45	Feedthrough to RF driver in Mech Room - installed Mar 19	Feedthrough to RF driver in Mech Room - installed Mar 19	
	EtherCAT chassis to EtherCAT splitter - pulled -	EtherCAT chassis to EtherCAT splitter - pulled -	i
46	March 19	March 19	
	EtherCAT chassis from EtherCAT splitter -	EtherCAT chassis from EtherCAT splitter -	
47	pulled - March 19 - requires FF gender changer	pulled - March 19 - requires FF gender changer	
	EtherCAT table breakout to feedthrough -	EtherCAT table breakout to feedthrough - Not	
	installed - March 7	installed - March 4	
40	Feedthrough to EtherCAT splitter in rack -	Feedthrough to EtherCAT splitter in rack - not	

	Aiming laser power cable - installed - NC to	Aiming laser power cable - not installed -
50	laser - march 7	march 4
51	Beam imager power cable - installed NC to imager - March 7	Beam imager power cable - not installed - March 4
52	24V power to corner feedthrough - EtherCAT on table - connected Mar 7	18V power to corner feedthrough - EtherCAT on table - not connect. Mar 4
53	24V on table to EtherCAT - connected - March7	18V on table to EtherCAT - not connected - March 4
54	DB15 from rotation stage to controller - installed March 4	DB15 from rotation stage to controller - installed March 4
	100ft EtherCAT to rotation stage feedthrough -	100ft EtherCAT to rotation stage feedthroguh - (connected directly to chassis, not feedthrough
55	- March 4	- March 4
56	Osc. In Mech room to Splitter in TCSX rack - ca	n't see - march 19.
	Power from ISS box to TTL box - installed March 7	Power from ISS box to TTL box - installed March 4
58	Chiller splitter cable - installed - March 19	Chiller splitter cable - installed - March 19
	Camera CAT5 cable on-table - not installed - march 4	Camera CAT5 cable on-table - not installed - march 4
60	Camera CAT5 cable feedtrhough to network switch - not installed - mar 4	Camera CAT5 cable feedtrhough to network switch - not installed - mar 4
61	2Pin Dsub Motor Supply cable for rotation stage - connected directly from power not feedthrough - March 4	2Pin Dsub Motor Supply cable for rotation stage - connected directly from power not feedthrough - March 4
	Laser power cable from Mech room - pulled - Mar 19	Laser power cable from Mech room - pulled - Mar 19
63	Intek BO box to site interlock - NC - march 4	Intek BO box to site interlock - NC - march 4
	2Pin Dsub Motor Supply cable on-table - NC - March 4	2Pin Dsub Motor Supply cable on-table - NC - March 4
65	Swapped pins 2 and 6 and installed - Mar-19	Swapped pins 2 and 6 and installed - Mar-19
66	Instek BO chassis to AA chassis - installed Mar	Instek BO chassis to AA chassis - installed Mar
	AOM interlock cable from AOM to driver - not	AOM interlock cable from AOM to driver - not
68	connected - March 4	connected - March 4
69	N/A doesn't exist anymore (AOM interlock feedthrogh to driver)	N/A doesn't exist anymore (AOM interlock feedthrogh to driver)
	24V feedthrough to rotation stage controller	24V feedthrough to rotation stage controller
70	power - not installed	power - not installed
	24V rack to feedtrhrough for rotation stage controller - onsatlled but connected directly to	24V rack to feedtrhrough for rotation stage controller - onsatlled but connected directly to
71	controller - Mar 7	controller - Mar 7
RF to Laser	4 cables installed - no driver	4 cables installed
Distrib. To RF	4 cables insatlled - no driver	4 cables insatlled
Cable dressing - ontable	Incomplete - Mar 5	Incomplete - Mar 5
Cable dressing - rack to table	Incomplete - Mar 5	Incomplete - Mar 5
Cable dressing - rack	Incomplete - Mar 5	Incomplete - Mar 5

Electronics

X

Y

Laser RF driver	Not installed - Mar 5	Installed - SN 21106D-20608 - Mar 5
Laser	Installed - SN 20311-21004D - Mar 5	Installed - SN 20608-21106D - Mar 5
Distribution box	Installed - Mar 5	Installed - Mar 5
Sine To TTL	Installed - Mar 5	Installed - Mar 5
D1300015 - ISS	Installed - S1301971 - Mar 5	Installed - no serial number - Mar 5
AOM Driver	Not installed Phase 1 - Mar 5	Not installed Phase 1 - Mar 5
D1201062 - Slow BO	Installed - SN1301940 - Mar 5	Installed - SN1301939 - Mar 5
Flipper 1	Removed Phase 1(is on-table) - Mar 5	Removed Phase 1(is on-table) - Mar 5
Sensor 1	Not installed Phase 1 - Mar 5	Not installed Phase 1 - Mar 5
Flipper 2	Installed - Mar 5 - need to change to fixed	Removed Phase 1(is on-table) - Mar 5
Sensor 2	Not installed Phase 1 - Mar 5	Not installed Phase 1 - Mar 5
Beam Imager	Not installed Phase 1 - Mar 5	Not installed Phase 1 - Mar 5
Temperature Sensor 1	Installed - Mar 7 - RF driver lines	Not installed Phase 1 - Mar 5
Temperature Sensor 2	Not installed Phase 1 - Mar 5	Not installed Phase 1 - Mar 5
Temperature Sensor 3	Not installed Phase 1 - Mar 5	Not installed Phase 1 - Mar 5
Temperature Sensor 4	Not installed Phase 1 - Mar 5	Not installed Phase 1 - Mar 5
Temperature Sensor 5	Not installed Phase 1 - Mar 5	Not installed Phase 1 - Mar 5
Temperature Sensor 6	Not installed Phase 1 - Mar 5	Not installed Phase 1 - Mar 5
Picomotor 1	Installed and working - Mar 5	Installed and working - Mar 5
Picomotor 2	Installed and working - Mar 5	Installed and working - Mar 5
Picomotor 3 - UPM	Installed and working - Mar 5	Installed and working - Mar 5
Picomotor BO Box 1	Installed and working - Mar 5	Installed and working - Mar 5
Picomotor BO Box 2	Installed and working - Mar 5	Installed and working - Mar 5
Rotation Stage Controller	Installed and working - Mar 5	Installed and working - Mar 5
CO2 Controller - D1200745	Installed - top removed - Mar 5 - S1302121	Installed - top removed - Mar 5
RF distribution - D1000124	Installed and working - Mar 5	Installed - required? - Mar 5
DC Sequencer - D1200757	Installed - S1202549 - Mar 5	Installed - S1202576 - Mar 5
CO2P EtherCAT splitter D1201063	Installed - Mar 20	Installed - Mar 20
Picomotor Driver D1100323	Installed - Mar 25	Installed - S1107549 - Mar 5
IR Sensor Amplifier - D1300366	Installed - Mar75 - limit not set	Installed - Mar 5 - limit not set
Viewport Sensor	Installed - not aligned - Mar 7	Installed - not aligned - Mar 5
Chiller Flow Meter	Installed - Mar 20	Installed - Mar 20
HEPA Filter	Installed - Mar 19	Installed - Mar 19
AC Drop for HEPA	Installed - Mar 19	Installed - Mar 19
AC Drop for Lighting	Installed - Mar 19	Installed - Mar 19
HEPA And light switches	Installed - Mar 19	Installed - Mar 19
Lighting	Installed - Mar 19	Installed - Mar 19

D1300767	Panel installed - Mar 5	Panel installed - Mar 5
CNR BO POWER	Insert installed: Mar 24	Insert installed: Mar 24
CNR BO ETHERCAT SPLITTER	Insert installed: Mar 24	Insert installed: Mar 24
MOTOR POWER	Insert installed: Mar 24	Insert installed: Mar 24
CTRL TO ROT STAGE	Insert installed: Mar 24	Insert installed: Mar 24
ROT STAGE SUPPLY	Insert installed: Mar 24	Insert installed: Mar 24
D1300766	Panel installed - Mar 7	Panel installed - Mar 5
RF TO LASER	Insert installed: Mar 24	Insert installed: Mar 24
CO2 LASER RTD	Insert installed: Mar 24	Insert installed: Mar 24
CO2 LASER RF1	Insert installed: Mar 24	Insert installed: Mar 24
CO2 LASER RF2	Insert installed: Mar 24	Insert installed: Mar 24
D1300765	Panel installed - Mar 5	Panel installed - Mar 5
AOM DRIVE	Insert installed: Mar 24	Insert installed: Mar 24
AOM INTERLOCK	Insert installed: Mar 24	Insert installed: Mar 24
HV SUPPLY TO PZT	Insert installed: Mar 24	Insert installed: Mar 24
POWER TO ISS	Insert installed: Mar 24	Insert installed: Mar 24
ISS ANALOG INPUTS	Insert installed: Mar 24	Insert installed: Mar 24
ISS ANALOG OUTPUTS	Insert installed: Mar 24	Insert installed: Mar 24
EMPTY PANELS	Some installed - gaps exist - Mar 5	Some installed - gaps exist - Mar 5
D1100323	Panel not installed - Mar 5	Panel installed - Mar 5
IN FROM PICO CONTROLLER	Insert installed: Mar 24	Insert installed: Mar 24
OTHERS	Panel installed - Mar 25	DOES NOT EXIST
AOM DRIVE POWER	Insert installed: Mar 25	DOES NOT EXIST
CAT5 NETWORK CABLE - IMAGER	Insert installed: Mar 25	DOES NOT EXIST
CO2 LASER POWER	Insert installed: Mar 25	DOES NOT EXIST

OPTICS - PHASE1&2	Installed and aligned?	
Optic name	Х	Υ
M1	Installed - Mar 5	Installed - Mar 5
POL1	Installed - Mar 5	Installed - Mar 5
AOM	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
AOM FOLD M1	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
AOM DUMP	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
DUMP1	Installed - Mar 5	Installed - Mar 5
M2/PO1	Installed - to be replaced in phase 2 - Mar 5	Installed - to be replaced in phase 2 - Mar 5
ISS BS	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
PD1 LENS	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
PD1 M1	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
PD1	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
PD2 M1	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
PD2 LENS	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
PD2	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
PM1	Installed - Mar 5	Installed - Mar 5
LENS1	Installed - Mar 5	Installed - Mar 5
PM2	Installed - Mar 5	Installed - Mar 5
M3/PO2	Installed - to be replaced in phase 2 - Mar 5	Installed - to be replaced in phase 2 - Mar 5
QPD BS	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
QPD1 LENS	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
OPD1	Installed - Mar 5	Not installed - Phase 2 - Mar 5
OPD2 M1	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
OPD2	Installed - Mar 5	Not installed - Phase 2 - Mar 5
HWP & MOTORIZED ROT STAGE	Installed - Mar 5	Installed - Mar 5
POL2	Installed - Mar 5	Installed - Mar 5
POL3	Installed - Mar 5	Installed - Mar 5
DUMPWC	Installed - Mar 5	Installed - Mar 5
DUMP2	Installed - Mar 5	Installed - Mar 5
M4/FLIPPER 1	Installed - to be replaced in phase 2 - Mar 5	Installed - to be replaced in phase 2 - Mar 5
FLIPPER 1 SENS	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
LENS2	Installed - Mar 5	Installed - Mar 5
M5	Installed - Mar 5	Installed - Mar 5
CENT MASK	Not installed - Mar 5	Installed - currently an iris - Mar 5
CENT MASK DUMP	Installed - Mar 5	Installed - Mar 5
OLIVI I WORK BOLL	Installed - have to replace with a fixed mirror -	
FLIPPER 2	Mar 5	2 - Mar 5
FLIPPER 2 SENS	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
ANN M1	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
ANN LENS1	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
ANN M2	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
ANN M3	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
ANN MASK	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
ANN MASK DUMP	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
BS1	Installed - Mar 5	Installed - Mar 5
IMG LENS 1	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
IMG LENS BS	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
PWR METER HEAD	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
IMG M1	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
IMG M2	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
IMG M3	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
1140 143		
IMG MS IMG SCREEN	Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5
	Not installed - Phase 2 - Mar 5 Not installed - Phase 2 - Mar 5	Not installed - Phase 2 - Mar 5 Not installed - Phase 2 - Mar 5

DCBS/FINAL MIRROR	Installed - have to replace with a fixed mirror - Mar 5	Installed - Mirror - change in design - Mar 5
AIML		Installed - Mar 5
AIMM1	Installed - Mar 5	Installed - Mar 5
AIMM2	Not Installed - change in design - Mar 5	Not Installed - change in design - Mar 5
OUTPUT IRIS 1	Installed - Mar 6	Installed - Mar 5
OUTPUT IRIS 2	Installed - Mar 6	Installed - Mar 5
PERISCOPE	Installed - Mar 5	Installed - Mar 5
LPM	Installed - Mar 5	Installed - Mar 5
UPM	Installed - Mar 5	Installed - Mar 5
PERISCOPE - RANGE CHECK (actuator		
range covers test mass?)	Checked - mar 5	Checked - mar 5

PLUMBING	х	Υ
CO2 Laser on-table hoses x2	Installed - Mar 5	Installed - Mar 5
Feeds to manifolds x2	Installed - Mar 5	Installed - Mar 5
Manifolds x 2	Installed - Mar 5	Installed - Mar 5
RF driver hoses x 8	Installed - RF driver not connected - Mar 5	Installed - Mar 5
WC beam dump x 2	Installed - Mar 5	Installed - Mar 5
AOM Driver x2	Not installed - Mar 5	Not installed - Mar 5
AOM x2	Not installed - Mar 5	Not installed - Mar 5

Calibrations

/opt/rtcds/lho/h1/chans/H1TCSCS.txt

Calibrations	Calibrations /opt/rtcds/lho/h1/chans/H1TCSCS.txt			
Channel	Working	Calibration	Safe snapped	
YARM				
L1:TCS-ITMY CO2 PWR SUPPLY I	Real-time filter is working - Mar 21	2.441E-3 A/count	Safe snapped - Mar 21	
L1:TCS-ITMY_CO2_PWR_SUPPLY_V	Real-time filter is working - Mar 21	4.882E-3 A/count	Safe snapped - Mar 21	
L1:TCS-ITMY_CO2_LSRPWR_MTR	Filter ok, input not confirmed - Mar 5	Not calibrated - Mar 5	Not BR - Mar 5	
L1:TCS-ITMY CO2 PZT MON	Filter ok, input not confirmed - Mar 5	3.05176E-3 V@PZT/count??	Not BR - Mar 5	
L1:TCS-ITMY CO2 LSRPWR HD PD	Filter ok, input not confirmed - Mar 5	Not calibrated - Mar 5	Not BR - Mar 5	
L1:TCS-ITMY CO2 PZT SET POINT	Filter ok, output not confirmed - Mar 5	327.68 counts/V@PZT	Not BR - Mar 5	
		T = 5.14E-4 counts + 5.84C (calibration).		
L1:TCS-ITMY_CO2_CHILLER_SET_POINT	Real-time filter is working - Mar 21	OFFSET= -5.84C. GAIN = 1945.53 C/counts	Safe snapped - Mar 21	
L1:TCS-ITMY_CO2_AOM_SET_POINT	Filter ok, output not confirmed - Mar 5	3276.8 counts/V@AOM, 0.8Hz zero	Not BR - Mar 5	
L1:TCS-ITMY_CO2_ISS_OUT_AC	Filter ok, input not confirmed - Mar 5	6.10352E-4 counts per volt	Not BR - Mar 5	
L1:TCS-ITMY_CO2_ISS_OUT_DC	Filter ok, input not confirmed - Mar 5	Not calibrated - Mar 5	Not BR - Mar 5	
L1:TCS-ITMY_CO2_ISS_IN_AC	Filter ok, input not confirmed - Mar 5	Not calibrated - Mar 5	Not BR - Mar 5	
L1:TCS-ITMY_CO2_ISS_IN_DC	Filter ok, input not confirmed - Mar 5	Not calibrated - Mar 5	Not BR - Mar 5	
L1:TCS-ITMY_CO2_CHILLER_SERVO_GAIN	Filter okay. Not calibrated, no gains - mar 5	Not calibrated - Mar 5	Not BR - Mar 5	
L1:TCS-ITMY_CO2_AOM_SERVO_GAIN	Filter okay. Not calibrated, no gains - mar 5	Not calibrated - Mar 5	Not BR - Mar 5	
L1:TCS-ITMY_CO2_LSRPWR_SET_POINT	Filter okay. Not calibrated, no gains - mar 5	Not calibrated - Mar 5	Not BR - Mar 5	
L1:TCS-ITMY_CO2_LSRPWR_ERR_SIGNAL	Filter okay. Not calibrated, no gains - mar 5	Not calibrated - Mar 5	Not BR - Mar 5	
	Matrix runs. Not feeding through - wrong			
L1:TCS-ITMY_CO2_MTRX	matrix on MEDM screen	Not calibrated - Mar 5	Not BR - Mar 5	
L1:TCS-ITMY_CO2_ISS_CTRL1		Not calibrated - Mar 5		
L1:TCS-ITMY_CO2_ISS_CTRL2		Not calibrated - Mar 5		
L1:TCS-ITMY_CO2_ISS_LOOP_SW		Not calibrated - Mar 5		
L1:TCS-ITMY_CO2_LOOP_SW_RB		Not calibrated - Mar 5		
L1:TCS-ITMY_CO2_QPD_A_SEG1		Not calibrated - Mar 5		
L1:TCS-ITMY_CO2_QPD_A_SEG2		Not calibrated - Mar 5		
L1:TCS-ITMY_CO2_QPD_A_SEG3		Not calibrated - Mar 5		
L1:TCS-ITMY_CO2_QPD_A_SEG4		Not calibrated - Mar 5		
L1:TCS-ITMY_CO2_QPD_B_SEG1		Not calibrated - Mar 5		
L1:TCS-ITMY_CO2_QPD_B_SEG2		Not calibrated - Mar 5		
L1:TCS-ITMY_CO2_QPD_B_SEG3		Not calibrated - Mar 5		
L1:TCS-ITMY_CO2_QPD_B_SEG4		Not calibrated - Mar 5		
L1:TCS-C_CO2_Y_LASERPOWER - rotation		Central: Pin = 43.894W, phi_min = 37.702		
stage	Rotation stage channels are working - Mar 5	deg, P0 = 1.825E-4	Not BR - Mar 5	
L1:TCS-C_CO2_Y_FLOWRATE	Input from Beckhoff - not checked - Mar 5	GAIN = 1.2742 gpm/V, OFFSET = -2.5	Not BR - Mar 5	
		VGAIN = 2.829E-3, VOFFSET = 20.16E-3,		
L1:TCS-C CO2 Y LASERTEMP	Input from Beckhoff - not checked - Mar 5	RCABLE = 2.85 (Ohms), VBRIDGEIN = 1.25, check RCABLE for Y	Not BR - Mar 5	
L1:SYS MOTION C PICO H	PICOMOTORS working - Mar 5	14200 counts = 1/80 in -> 8.8E-7m per count	Not BR - Mar 5	
L1:TCS-C CO2 Y LASERONOFFMON	Beckhoff - not checked - Mar 5	N/A - binary	N/A - binary	
L1:TCS-C_CO2_Y_LASERONOFFMON L1:TCS-C_CO2_Y_INTERLOCKRTDMON	Beckhoff - channel doesn't exist - Mar 5	N/A - binary N/A - binary	N/A - binary N/A - binary	
L1:TCS-C_CO2_Y_INTERLOCKFLOWMON	Beckhoff - channel doesn't exist - Mar 5 Beckhoff - channel doesn't exist - Mar 5	N/A - binary	N/A - binary N/A - binary	
L1:TCS-C_CO2_Y_INTERLOCKFLOWMON L1:TCS-C_CO2_Y_INTERLOCKAUX1MON	Beckhoff - not checked - Mar 5	N/A - binary N/A - binary	N/A - binary N/A - binary	
L1:TCS-C_CO2_Y_INTERLOCKAUXIMON L1:TCS-C_CO2_Y_INTERLOCKAUX2MON		N/A - binary N/A - binary	N/A - binary N/A - binary	
L1:TCS-C_CO2_Y_INTERLOCKAUX2MON L1:TCS-C_CO2_Y_LASERTEMPVOLTAGE	Beckhoff - not checked - Mar 5 Beckhoff - not checked - Mar 5	See calibration above	N/A - binary N/A	
L1:TCS-C_CO2_Y_LASERTEMPVOLTAGE L1:TCS-C_CO2_Y_FLOWRATEVOLTAGE	Beckhoff - not checked - Mar 5 Beckhoff - not checked - Mar 5	See calibration above See calibration above	N/A	
		N/A - binary	N/A - binary	
L1:TCS-C_CO2_Y_SHUTTER1MON	Beckhoff - not checked - Mar 5			
L1:TCS-C_CO2_Y_SHUTTER2MON	Beckhoff - not checked - Mar 5	N/A - binary	N/A - binary	
L1:TCS-C_CO2_Y_SHUTTER3MON	N/A defunct channel	N/A - binary	N/A - binary	
L1:TCS-C_CO2_Y_TEMPERATURESENSOR1	BECKHOFF OUT OF ORDER - Check this	N/A - calibrated in Beckhoff	N/A	
L1:TCS-C_CO2_Y_TEMPERATURESENSOR2	BECKHOFF OUT OF ORDER - Check this	N/A - calibrated in Beckhoff	N/A	
L1:TCS-C_CO2_Y_TEMPERATURESENSOR3	BECKHOFF OUT OF ORDER - Check this	N/A - calibrated in Beckhoff	N/A	
L1:TCS-C_CO2_Y_TEMPERATURESENSOR4	BECKHOFF OUT OF ORDER - Check this	N/A - calibrated in Beckhoff	N/A	
L1:TCS-C_CO2_Y_TEMPERATURESENSOR5	BECKHOFF OUT OF ORDER - Check this	N/A - calibrated in Beckhoff	N/A	
L1:TCS-C_CO2_Y_TEMPERATURESENSOR6	BECKHOFF OUT OF ORDER - Check this	N/A - calibrated in Beckhoff	N/A	
L1:TCS-C_CO2_Y_LASERONOFFSWITCH	Beckhoff - not checked - Mar 5	N/A - binary	N/A - binary	
L1:TCS-C_CO2_Y_ACTAUX1	Beckhoff - not checked - Mar 5	N/A - binary	N/A - binary	

D1300650

LITCS-COULY_ADPENDIXE Security Decident Decident	L1:TCS-C_CO2_Y_ACTAUX2	Beckhoff - not checked - Mar 5	N/A - binary	N/A - binary
LITCS-CO2_Y_ACTEUP? Betchild**—root checked = Ner 5 NA - Interry NA				
Section Test Cocked No.				
LTCS-TIMX COZ PUR SUPPLY Real-time filtre is working - Mar 21 A 4817-3 A/cours				
LTCS-TIMX_CO2_PWR_SUPPLY_V Real-time filter is working. Mar 21 2.44E3_A/count Safe snapped. Her 24 LTCS-TIMX_CO2_PWR_SUPPLY_V Real-time filter is working. Mar 21 4.8925_A/count Safe snapped. Her 24 4.8925_A/count Safe snapped.				
InterestMix Cod Purk SUPPLY			·	
LTCS-TIMX COZ PARS SUPER V		Real-time filter is working - Mar 21	2.441E-3 A/count	Safe snapped - Mar 24
LiTCS-TIMX_COZ_LSRPW_RTDR				
LTCS-TIMX_COZ_PRT_MON_ Titler ok., input not confirmed. Mar 24 3.051766.3 WRPT/Townet Safe snapped. Mar 24 LTCS-TIMX_COZ_PRT_OUT_GAIN Titler ok., but put not confirmed. Mar 5 327.66 counts/WRPT_T Safe snapped. Mar 24 LTCS-TIMX_COZ_PRT_SERVO_GAIN Titler ok., Mar 24 No. calibration required. Internal filter, 50% Safe snapped. Mar 24 LTCS-TIMX_COZ_PRT_SERVO_GAIN Titler ok., Mar 24 No. calibration required. Internal filter, 50% Safe snapped. Mar 24 LTCS-TIMX_COZ_PRT_SERVO_GAIN Titler ok., Mar 24 No. calibration required. Internal filter, 50% Safe snapped. Mar 24 LTCS-TIMX_COZ_CHILLER. GUT Safe snapped. Mar 24 No. calibration required. Internal filter, 50% Safe snapped. Mar 24 LTCS-TIMX_COZ_CHILLER. GUT Safe snapped. Mar 24 No. calibration required. Internal filter, 50% Safe snapped. Mar 24 LTCS-TIMX_COZ_CHILLER. GUT Safe snapped. Mar 24 No. calibration required. Internal filter, 50% Safe snapped. Mar 24 LTCS-TIMX_COZ_CHILLER. GUT Safe snapped. Mar 24 No. calibration required. Internal filter, 50% Safe snapped. Mar 24 LTCS-TIMX_COZ_CHILLER. GUT Safe snapped. Mar 24 No. calibration required. Internal filter, 50% Safe snapped. Mar 24 LTCS-TIMX_COZ_SIS_OUT_CC_CHILLER. SERVO_GAIN Titler ok., suppr not confirmed. Mar 5 No. calibration required. Internal filter, 50% Safe snapped. Mar 24 LTCS-TIMX_COZ_SIS_CHILD. Safe snapped. Mar 24 No. calibration required. Internal filter, 50% Safe snapped. Mar 24 LTCS-TIMX_COZ_SIS_CHILD. Safe snapped. Mar 24 No. calibration required. Internal filter, 50% Safe snapped. Mar 24 No. calibration required. Internal filter, 50% Safe snapped. Mar 24 No. calibration required. Safe snapped. Mar 24 No. calibration required. Internal filter, 50% Safe snapped. Mar 24 No. calibration required. Internal filter, 50% Safe snapped. Mar 24 No. calibration required. Safe snapped. Mar 24 No. calibration required. Safe snapped. Mar 24 No. calibration required. Safe snapped. Mar 24 No. cal				
LiTCS-TIMX_CO2_PZT_SENV_GAIN Piter ol., output not confirmed - Nor 5 327.08 counts/VEPZT See suspend - Nor 24 LiTCS-TIMX_CO2_PZT_SET_POINT Piter ol Nor 24 No. Califoration required - Internal filter, 50V See suspend - Nor 24 LiTCS-TIMX_CO2_PZT_SET_POINT Piter ol Nor 24 No. Califoration required - Internal filter, 50V See suspend - Nor 24 LiTCS-TIMX_CO2_CHILLER_OUT Real-time filter is working - Nor 21 T = 5.144-4 counts + 5.84C (califoration). LiTCS-TIMX_CO2_CHILLER_OUT Real-time filter is working - Nor 24 LiTCS-TIMX_CO2_ADM_SET_POINT Real-time filter is working - Nor 24 LiTCS-TIMX_CO2_LISS_OUT_AC Real-time filter is working -	L1:TCS-ITMX_CO2_PZT_MON		3.05176E-3 V@PZT/count	Safe snapped - Mar 24
LITCS-THIX. CO2 PZT_SERVO GAIN Filter ox. Mar 24	L1:TCS-ITMX_CO2_LSRPWR_HD_PD	Filter ok, input not confirmed - Mar 5	3.05176E-4 V/count	Safe snapped - Mar 24
LiTCS-TIMX_COZ_CHILLER_SET_POINT Riser ick. Natr 24 No. collection required - internal filter, 50V Safe snapped - Natr 24 T = 5.144-4 counts + 5.84C (calibration). Safe snapped - Natr 21 T = 5.144-4 counts + 5.84C (calibration). Safe snapped - Natr 21 T = 5.144-4 counts + 5.84C (calibration). Safe snapped - Natr 21 T = 5.144-4 counts + 5.84C (calibration). Safe snapped - Natr 21 LiTCS-TIMX_COZ_ADM_OUT_GAIN Filter (skay - May 24 No. calibration required - internal filter, 6.1V Safe snapped - Natr 24 No. calibration required - internal filter, 6.1V Safe snapped - Natr 24 No. calibration required - internal filter, 6.1V Safe snapped - Natr 24 No. calibration - Natr 25 No. calibration - Natr 26 No. calibration - Natr 26 No. calibration - Natr 27 No. calibration - Na	L1:TCS-ITMX_CO2_PZT_OUT_GAIN	Filter ok, output not confirmed - Mar 5	327.68 counts/V@PZT	Safe snapped - Mar 24
1.17CS-TTMX CO2 CHILLER SET POINT Real-time filter is working - Mer 21 No. calibration required - internal filter, 20C Safe snapped - Mar 21 1.17CS-TTMX CO2 CHILLER OUT Real-time filter is working - Mer 21 OFFSET - S.84C. CARID = 1945.53 (rounts) safe snapped - Mar 21 TITCS-TTMX CO2 AOM SET POINT Titler obay - Mar 24 Safe snapped - Mar 21 TITCS-TTMX CO2 AOM SET POINT Titler obay - Mar 24 Safe snapped - Mar 2	L1:TCS-ITMX_CO2_PZT_SERVO_GAIN	Filter ok - Mar 24	control filter not set - Mar 24	Not SS - Mar 24
LTCS-TTMX_CO2_ADM_SET_POINT Real-time filter is working - Mer 21		Filter ok - Mar 24	No calibration required - internal filter, 50V	Safe snapped - Mar 24
LiTCS-TIME_COZ_ADM_SET_POINT Real-time filter is working Mar 21	L1:TCS-ITMX_CO2_CHILLER_SET_POINT	Real-time filter is working - Mar 21		Safe snapped - Mar 21
LiTCS-TIME_CO2_ADM_OUT_GAIN Filter obey - Mer 24 LiTCS-TIME_CO2_ADM_OUT_GAIN Filter obey - Mer 24 LiTCS-TIME_CO2_ISS_OUT_AC Filter obey - Mer 24 LiTCS-TIME_CO2_ISS_IN_AC Filter obey - Mer 24 LiTCS-TIME_CO2_ISS_IN_AC Filter obey - Mer 24 LiTCS-TIME_CO2_ISS_IN_AC Filter obey - Mer 24 Control filter not set - Mer 24 Mer 25 LiTCS-TIME_CO2_ADM_SERVO_GAIN Filter obey - Mer 24 Control filter not set - Mer 24 Mer 25 LiTCS-TIME_CO2_LISPWS_EFF_POINT Filter obey - Mer 24 Mer 24 LiTCS-TIME_CO2_LISPWS_EFF_ROSE_AND Filter obey - Mer 24	LITTEE ITMY COR CHILLED OUT	Deal bines filters in weathing May 24		C-f M 21
ILITESTHMX_CO2_ISS_OUT_DC_				
LiTCS-TIME_COZ_ISS_OUT_AC_ Filter oils, injunit not confirmed - Mer S Not calibrated - Mer S Not BR - Mer S				
Interest				
LiTCS-ITMX_CO2_ISS_IN_AC				
LitTCS-ITMX CO2 SIS IN DC				
LiTCS-ITMX CO2 ADM SERVO GAIN Filter okay - Mar 24				
LiTCS-ITMX CO2_LSRPWR_SER_DOINT Filter oke, Mot calibrated, no gains - mar 5 Not calibrated - Mar 5 Not R Mar 5 LiTCS-ITMX CO2_LSRPWR_SER_DOINT Filter okey, Not calibrated, no gains - mar 5 Not calibrated - Mar 5 Not R Mar 5 LiTCS-ITMX CO2_LSRPWR_SER_DOINT Motive is okey - values not set Not calibrated - Mar 5 Not R Mar 5 LiTCS-ITMX CO2_ISS_CTRL1 Not R Mar 5 Not R Mar 5 LiTCS-ITMX CO2_ISS_CTRL2 Not calibrated - Mar 5 Not R Mar 5 LiTCS-ITMX CO2_ISS_LOOP_SW Not calibrated - Mar 5 Not R Mar 5 LiTCS-ITMX CO2_LSS_LOOP_SW Not calibrated - Mar 5 Not calibrated - Mar 5 LiTCS-ITMX CO2_LSS_LOOP_SW Not calibrated - Mar 5 Not calibrated - Mar 5 LiTCS-ITMX CO2_OPD_A_SEG1 Not calibrated - Mar 5 LiTCS-ITMX CO2_OPD_A_SEG3 Not calibrated - Mar 5 LiTCS-ITMX CO2_OPD_A_SEG3 Not calibrated - Mar 5 LiTCS-ITMX CO2_OPD_A_SEG3 Not calibrated - Mar 5 LiTCS-ITMX CO2_OPD_B_SEG3 Not calibrated - Mar 5 LiT				
LitTCS-ITMX CO2 LISPWR RS ISIGNAL Matrix is okay - values not set Not calibrated - Mar 5 Not R Mar 5				
LiTCS-ITMX CO2 LISS CTRL1				
LiTCS-TIMX CO2 ISS CTRL2				
Li-TCS-TIMX CO2 LOOP SW RB	L1:TCS-ITMX_CO2_MTRX	Matrix is okay - values not set	Not calibrated - Mar 5	Not BR - Mar 5
Li-TCS-TIMX CO2 LODP SW B	L1:TCS-ITMX_CO2_ISS_CTRL1		Not calibrated - Mar 5	
Li.TCS-ITMX CO2 QPD A SEG1	L1:TCS-ITMX_CO2_ISS_CTRL2		Not calibrated - Mar 5	
Li.TCS-ITMX CO2 QPD A SEG1	L1:TCS-ITMX_CO2_ISS_LOOP_SW		Not calibrated - Mar 5	
Li.TCS-ITMX CO2 QPD A SEG3			Not calibrated - Mar 5	
LiTCS-ITMX CO2 QPD A SEG3			Not calibrated - Mar 5	
L1:TCS-TIMX CO2 QPD B SEG1 L1:TCS-TIMX CO2 QPD B SEG3 L1:TCS-TIMX CO2 QPD B SEG4 L1:TCS-C CO2 X LASERPOWER - rotation should be working - not checked Mar 5 stage L1:TCS-C CO2 X LASERPOWER - rotation should be working - not checked Mar 5 L1:TCS-C CO2 X FLOWRATE Input from Beckhoff - not checked - Mar 5 L1:TCS-C CO2 X LASERTEMP Input from Beckhoff - not checked - Mar 5 L1:TCS-C CO2 X LASERTEMP Input from Beckhoff - not checked - Mar 5 L1:TCS-C CO2 X LASERTEMP Input from Beckhoff - not checked - Mar 5 L1:TCS-C CO2 X LASERTEMP Input from Beckhoff - not checked - Mar 5 L1:TCS-C CO2 X LASERTEMP Input from Beckhoff - not checked - Mar 5 L1:TCS-C CO2 X LASERTEMP Input from Beckhoff - not checked - Mar 5 L1:TCS-C CO2 X LASERTEMP Input from Beckhoff - not checked - Mar 5 L1:TCS-C CO2 X LASERTEMP Input from Beckhoff - not checked - Mar 5 L1:TCS-C CO2 X LASERTEMP Input from Beckhoff - not checked - Mar 5 Input from Beckhoff - not checked - Mar 5 Input from Beckhoff - not checked - Mar 5 Input from Beckhoff - not checked - Mar 5 Input from Beckhoff - not checked - Mar 5 Input from Beckhoff - not checked - Mar 5 Input from Beckhoff - not checked - Mar 5 Input from Beckhoff - not checked - Mar 5 Input from Beckhoff - not checked - Mar 5 Input from Beckhoff - not checked - Mar 5 Input from Beckhoff - not checked - Mar 5 Input from Beckhoff - not checked - Mar 5 Input from Beckhoff - not checked - Mar 5 Input from Beckhoff - not checked - Mar 5 Input from Beckhoff - not checked - Mar 5 Input from Beckhoff - not checked - Mar 5 Input from Beckhoff - not checked - Mar 5 Input from Beckhoff - not checked - Mar 5 Input from Beckhoff - not checked - Mar 5 Input from Beckhoff - N/A Input from Beckhoff - not checked - Mar 5 Input from Beckhoff - N/A Input from Beckhoff - N/A Input from Beckhoff - N/A Input from Beckhoff -			Not calibrated - Mar 5	
L1:TCS-TIMX CO2 QPD B SEG2				
LI:TCS-TIMX_CO2_QPD_B_SEG3 LI:TCS-TIMX_CO2_QPD_B_SEG3 LI:TCS-TIMX_CO2_QPD_B_SEG3 LI:TCS-TIMX_CO2_QPD_B_SEG3 LI:TCS-TIMX_CO2_QPD_B_SEG3 LI:TCS-TIMX_CO2_QPD_B_SEG4 LI:TCS-C_CO2_X_LASERPOWER - rotation stage S Not calibrated - Mar 5				
LI:TCS-CO2_X_LASERFOWER - rotation stage LI:TCS-C_CO2_X_LASERFOWER - rotation stage LI:TCS-C_CO2_X_LASERTEMP LI:TCS-C_CO2_X_LASERTEMP Input from Beckhoff - not checked - Mar 5 LI:TCS-C_CO2_X_LASERTEMP Input from Beckhoff - not checked - Mar 5 LI:TCS-C_CO2_X_LASERTEMP Input from Beckhoff - not checked - Mar 5 LI:TCS-C_CO2_X_LASERTEMP Input from Beckhoff - not checked - Mar 5 LI:TCS-C_CO2_X_LASERTEMP Input from Beckhoff - not checked - Mar 5 LI:TCS-C_CO2_X_LASERTEMP Input from Beckhoff - not checked - Mar 5 LI:TCS-C_CO2_X_LASERTEMP Input from Beckhoff - not checked - Mar 5 LI:TCS-C_CO2_X_LASERTEMP Input from Beckhoff - not checked - Mar 5 LI:TCS-C_CO2_X_LASERTEMPCOLAGALXIMON Beckhoff - channel doesn't exist - Mar 5 N/A - binary				
LI:TCS-C_CO2_X_LASERPOWER - rotation should be working - not checked Mar 5				
LI:TCS-C_CO2_X_LASERPOWER - rotation Stage LI:TCS-C_CO2_X_FLOWRATE Input from Beckhoff - not checked - Mar 5 LI:TCS-C_CO2_X_LASERTEMP Input from Beckhoff - not checked - Mar 5 LI:TCS-C_CO2_X_LASERTEMP Input from Beckhoff - not checked - Mar 5 LI:TCS-C_CO2_X_LASERTEMP Input from Beckhoff - not checked - Mar 5 LI:TCS-C_CO2_X_LASERTEMP Input from Beckhoff - not checked - Mar 5 LI:TCS-C_CO2_X_LASERTEMP Input from Beckhoff - not checked - Mar 5 LI:TCS-C_CO2_X_LASERTEMP Input from Beckhoff - not checked - Mar 5 LI:TCS-C_CO2_X_LASERTEMP Input from Beckhoff - not checked - Mar 5 LI:TCS-C_CO2_X_LASERTEMP Input from Beckhoff - not checked - Mar 5 LI:TCS-C_CO2_X_LASERTEMP Input from Beckhoff - not checked - Mar 5 LI:TCS-C_CO2_X_LASERTEMP Input from Beckhoff - not checked - Mar 5 LI:TCS-C_CO2_X_LASERTEMPCOKATIOMON Beckhoff - not checked - Mar 5 N/A - binary N/A -				
Stage S		Detection of could be supplied on the shortest Man	Not calibrated - Mar 5	
L1:TCS-C_CO2_X_FLOWRATE		5	Not calibrated - Mar 5	Not BR - Mar 5
L1:TCS-C CO2 X LASERTEMP Input from Beckhoff - not checked - Mar 5 L1:SYS MOTION C PICO H PICOMOTORS working - Mar 5 L1:TCS-C CO2 X LASERONOFFMON Beckhoff - not checked - Mar 5 L1:TCS-C CO2 X LASERONOFFMON L1:TCS-C CO2 X INTERLOCKRTDMON Beckhoff - not checked - Mar 5 N/A - binary N/A -		Input from Beckhoff - not checked - Mar 5		
L1:SYS_MOTION_C_PICO_H L1:TCS-C_CO2_X_LASERONOFFMON Beckhoff - not checked - Mar 5 N/A - binary L1:TCS-C_CO2_X_INTERLOCKRTDMON Beckhoff - channel doesn't exist - Mar 5 N/A - binary L1:TCS-C_CO2_X_INTERLOCKFLOWMON Beckhoff - channel doesn't exist - Mar 5 N/A - binary N/A -				
L1:TCS-C CO2 X LASERONOFFMON Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C CO2 X INTERLOCKRTDMON Beckhoff - channel doesn't exist - Mar 5 N/A - binary N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR3 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR5 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPER	L1:TCS-C_CO2_X_LASERTEMP	Input from Beckhoff - not checked - Mar 5	RCABLE = 2.85 (Ohms), VBRIDGEIN = 1.25,	Not BR - Mar 5
L1:TCS-C_CO2_X_INTERLOCKRTDMON Beckhoff - channel doesn't exist - Mar 5 N/A - binary N/A - binar	L1:SYS_MOTION_C_PICO_H	PICOMOTORS working - Mar 5		
L1:TCS-C CO2 X INTERLOCKFLOWMON Beckhoff - channel doesn't exist - Mar 5 N/A - binary L1:TCS-C CO2 X INTERLOCKAUXIMON Beckhoff - not checked - Mar 5 N/A - binary L1:TCS-C CO2 X INTERLOCKAUX2MON Beckhoff - not checked - Mar 5 N/A - binary L1:TCS-C CO2 X INTERLOCKAUX2MON Beckhoff - not checked - Mar 5 N/A - binary L1:TCS-C CO2 X LASERTEMPVOLTAGE Beckhoff - not checked - Mar 5 See calibration above N/A L1:TCS-C CO2 X FLOWRATEVOLTAGE Beckhoff - not checked - Mar 5 See calibration above N/A - binary N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR3 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR5 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR5 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR5 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR5 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR5 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR5 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR5 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR5		Beckhoff - not checked - Mar 5		
L1:TCS-C CO2 X INTERLOCKAUX1MON Beckhoff - not checked - Mar 5 N/A - binary N/A - calibrated in Beckhoff N/A N/A N/A - calibrated in Beckhoff N/A N/A N/A - calibrated in Beckhoff N/A - calibrated in Be				
L1:TCS-C CO2 X INTERLOCKAUX2MON Beckhoff - not checked - Mar 5 See calibration above N/A - binary L1:TCS-C CO2 X LASERTEMPVOLTAGE Beckhoff - not checked - Mar 5 See calibration above N/A L1:TCS-C CO2 X SHUTTER1MON Beckhoff - not checked - Mar 5 N/A - binary N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR2 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR3 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR3 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR3 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR5 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - c				
L1:TCS-C CO2 X LASERTEMPVOLTAGE Beckhoff - not checked - Mar 5 See calibration above N/A L1:TCS-C CO2 X FLOWRATEVOLTAGE Beckhoff - not checked - Mar 5 See calibration above N/A L1:TCS-C CO2 X SHUTTER1MON Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C CO2 X SHUTTER2MON Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C CO2 X SHUTTER3MON N/A defunct channel N/A - binary N/A - binary L1:TCS-C CO2 X TEMPERATURESENSOR1 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR2 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR3 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR3 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR5 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR5 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - binary N/A				
L1:TCS-C CO2 X FLOWRATEVOLTAGE Beckhoff - not checked - Mar 5 See calibration above N/A L1:TCS-C CO2 X SHUTTER1MON Beckhoff - not checked - Mar 5 N/A - binary N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR2 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR3 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR3 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR5 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR5 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR5 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR5 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2				
L1:TCS-C CO2 X SHUTTER1MON Beckhoff - not checked - Mar 5 N/A - binary N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR3 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR5 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR5 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - binary N/A - bi				
L1:TCS-C_CO2_X_SHUTTER2MON Beckhoff - not checked - Mar 5 N/A - binary N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_TEMPERATURESENSOR2 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_TEMPERATURESENSOR3 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_TEMPERATURESENSOR4 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_TEMPERATURESENSOR5 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_TEMPERATURESENSOR5 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - binary N/A - bina				
L1:TCS-C CO2 X SHUTTER3MON N/A defunct channel N/A - binary N/A - bin				
L1:TCS-C_CO2_X_TEMPERATURESENSOR1 L1:TCS-C_CO2_X_TEMPERATURESENSOR2 L1:TCS-C_CO2_X_TEMPERATURESENSOR3 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_TEMPERATURESENSOR3 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_TEMPERATURESENSOR4 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_TEMPERATURESENSOR5 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_TEMPERATURESENSOR5 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_LASERONOFFSWITCH BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_LASERONOFFSWITCH BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_LASERONOFFSWITCH BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_LASERONOFFSWITCH BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_LASERONOFFSWITCH BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_LASERONOFFSWITCH BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_LASERONOFFSWITCH BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_LASERONOFFSWITCH BECKHOFF OUT OF ORDER - Check this N/A - binary				
L1:TCS-C_CO2_X_TEMPERATURESENSOR2 BECKHOFF OUT OF ORDER - Check this L1:TCS-C_CO2_X_TEMPERATURESENSOR3 BECKHOFF OUT OF ORDER - Check this L1:TCS-C_CO2_X_TEMPERATURESENSOR4 L1:TCS-C_CO2_X_TEMPERATURESENSOR4 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_TEMPERATURESENSOR5 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_LASERONOFFSWITCH Beckhoff - not checked - Mar 5 N/A - binary				
L1:TCS-C_CO2_X_TEMPERATURESENSOR3 BECKHOFF OUT OF ORDER - Check this L1:TCS-C_CO2_X_TEMPERATURESENSOR4 L1:TCS-C_CO2_X_TEMPERATURESENSOR5 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_TEMPERATURESENSOR5 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - binary				
L1:TCS-C CO2 X TEMPERATURESENSOR4 L1:TCS-C CO2 X TEMPERATURESENSOR5 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C CO2 X LASERONOFFSWITCH Beckhoff - not checked - Mar 5 N/A - binary				
L1:TCS-C_CO2_X_TEMPERATURESENSOR5 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_LASERONOFFSWITCH Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C_CO2_X_ACTAUX1 Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C_CO2_X_ACTAUX2 Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C_CO2_X_AIMENABLE Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C_CO2_X_ACTFLIP1 Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C_CO2_X_ACTFLIP1 Beckhoff - not checked - Mar 5 N/A - binary N/A - binary				
L1:TCS-C_CO2_X_TEMPERATURESENSOR6 BECKHOFF OUT OF ORDER - Check this N/A - calibrated in Beckhoff N/A L1:TCS-C_CO2_X_LASERONOFFSWITCH Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C_CO2_X_ACTAUX1 Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C_CO2_X_ACTAUX2 Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C_CO2_X_AIMENABLE Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C_CO2_X_FIRENABLE Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C_CO2_X_ACTFLIP1 Beckhoff - not checked - Mar 5 N/A - binary N/A - binary				
L1:TCS-C_CO2_X_LASERONOFFSWITCH Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C_CO2_X_ACTAUX1 Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C_CO2_X_ACTAUX2 Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C_CO2_X_AIMENABLE Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C_CO2_X_FLIRENABLE Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C_CO2_X_ACTFLIP1 Beckhoff - not checked - Mar 5 N/A - binary N/A - binary				
L1:TCS-C CO2 X ACTAUX1 Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C CO2 X ACTAUX2 Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C CO2 X AIMENABLE Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C CO2 X FLIRENABLE Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C CO2 X ACTFLIP1 Beckhoff - not checked - Mar 5 N/A - binary N/A - binary				
L1:TCS-C_CO2_X_ACTAUX2 Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C_CO2_X_AIMENABLE Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C_CO2_X_FLIRENABLE Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C_CO2_X_ACTFLIP1 Beckhoff - not checked - Mar 5 N/A - binary N/A - binary				
L1:TCS-C_CO2_X_AIMENABLE Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C_CO2_X_FLIRENABLE Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C_CO2_X_ACTFLIP1 Beckhoff - not checked - Mar 5 N/A - binary N/A - binary	L1:TCS-C_CO2_X_ACTAUX2			
L1:TCS-C_CO2_X_FLIRENABLE Beckhoff - not checked - Mar 5 N/A - binary N/A - binary L1:TCS-C_CO2_X_ACTFLIP1 Beckhoff - not checked - Mar 5 N/A - binary N/A - binary				
	L1:TCS-C_CO2_X_FLIRENABLE		N/A - binary	
L1:TCS-C_CO2_X_ACTFLIP2 Beckhoff - not checked - Mar 5 N/A - binary N/A - binary		Beckhoff - not checked - Mar 5	N/A - binary	
	L1:TCS-C_CO2_X_ACTFLIP2	Beckhoff - not checked - Mar 5	N/A - binary	N/A - binary