



- OptLev HAM2 Transmitter
- ◆ OptLev PR3 Transmitter
- ▲ OptLev PR3 Receiver
- × OptLev HAM3 Transmitter
- ✕ OptLev SR3 Transmitter
- OptLev SR3 Receiver
- + OptLev HAM4 Transmitter
- OptLev HAM5 Transmitter
- OptLev ITMx Transmitter
- ◆ OptLev ITMx Receiver
- OptLev ITMy Transmitter
- ▲ OptLev ITMy Receiver
- ✕ OptLev HAM8 Transmitter
- ✕ OptLev PR3 Transmitter
- OptLev PR3 Receiver
- + OptLev HAM9 Transmitter
- OptLev SR3 Transmitter
- OptLev SR3 Receiver
- ◆ OptLev HAM10 Transmitter
- OptLev HAM11 Transmitter
- ▲ OptLev ITMx Transmitter
- × OptLev ITMx Receiver
- ✕ OptLev ITMy Transmitter
- OptLev ITMy Receiver

			*center, unless otherwise specified			GLOBAL ALIGNED, CHAMBER CENTERED (mm)			BUILDING COORD. GRAVITY ALIGNED (mm)			HEIGHT ABOVE FLOOR (mm)	Large Dwarf	Leaner LH	Leaner RH	Small Dwarf	Giraffe LH	Giraffe RH	Medium Dwarf	name		
IFO	DESCRIPTION	LABEL	POINT*	GLOBAL (mm)			CHAMBER X	Y	Z	BLDG.	X	Y	Z	FLOOR (mm)	D1000452	D1001292	D1001297	D1001301	D1002207	D1002208	D1001854	weldments
				X	Y	Z								D1001339	D1001325	D1001330	D1001334	D1001166	D1001170	D1001851	assemblies	
	OptLev SR3 Transmitter	OL SR3 Tx	outer face	8992.6	15138.3	-1012.0	HAM11	-227.4	-14203.7	-1012.0	CORNER	8992.0	15138.3	-1017.4				872				
	OptLev SR3, Rx Viewport	OL SR3 Rx VP	outer face	8992.6	15392.3	811.9	HAM11	-227.4	-13949.7	811.9	CORNER	8993.1	15392.3	806.5								2696
	OptLev SR3 Receiver	OL SR3 Rx	outer face	8992.0	15138.3	818.9	HAM11	-228.0	-14203.7	818.9	CORNER	8992.5	15138.3	813.5					2703			
	OptLev HAM10, Tx & Rx Viewport	OL HAM10 VP	outer face	8750.1	26923.1	-913.9	HAM10	-469.9	13872.1	-913.9	CORNER	8749.5	26923.1	-919.0								
	OptLev HAM10 Transmitter	OL HAM10 Tx	outer face	8687.1	27177.1	-913.9	HAM10	-532.9	14126.1	-913.9	CORNER	8686.5	27177.1	-918.9								970
	OptLev HAM10 Receiver	OL HAM10 Rx	outer face	8789.2	27177.1	-913.9	HAM10	-430.8	14126.1	-913.9	CORNER	8788.6	27177.1	-919.0								
	OptLev HAM10, Reference Mirror	OL HAM10 M	HR	9475.0	13920.0	-225.0	HAM10	255.0	869.0	-225.0	CORNER	9474.9	13920.0	-230.7								
	OptLev HAM11, Tx & Rx Viewport	OL HAM11 VP	outer face	9745.5	15392.3	-879.1	HAM11	525.5	-13949.7	-879.1	CORNER	9745.0	15392.3	-885.0								
	OptLev HAM11 Transmitter	OL HAM11 Tx	outer face	9707.5	15138.3	-879.1	HAM11	487.5	-14203.7	-879.1	CORNER	9707.0	15138.3	-885.0								1004
	OptLev HAM11 Receiver	OL HAM11 Rx	outer face	9805.4	15138.3	-879.1	HAM11	585.4	-14203.7	-879.1	CORNER	9804.9	15138.3	-885.0								
	OptLev HAM11, Reference Mirror	OL HAM11 M	HR	9075.0	28470.0	-225.0	HAM11	-145.0	-872.0	-225.0	CORNER	9074.9	28470.0	-230.3								
	OptLev ITMx, Tx Viewport	OL ITMx Tx VP	outer face	37787.3	-145.4	-748.0	BSC7	28418.3	-145.4	-748.0	CORNER	37786.8	-145.4	-771.4								
	OptLev ITMx Transmitter	OL ITMx Tx	outer face	38051.0	-155.0	-685.0	BSC7	28682.0	-155.0	-685.0	CORNER	38050.6	-155.0	-708.6	1181							
	OptLev ITMx, Rx Viewport	OL ITMx Rx VP	outer face	37787.3	566.3	509.9	BSC7	28418.3	566.3	509.9	CORNER	37787.6	566.3	486.5								
	OptLev ITMx Receiver	OL ITMx Rx	outer face	38051.0	554.0	525.0	BSC7	28682.0	554.0	525.0	CORNER	38051.3	554.0	501.4			2391					
	OptLev ITMy, Tx Viewport	OL ITMY Tx VP	outer face	-145.4	37787.3	-748.0	BSC8	-145.4	28418.3	-748.0	CORNER	-145.9	37787.3	-747.4								
	OptLev ITMy Transmitter	OL ITMY Tx	outer face	-155.0	38051.0	-685.0	BSC8	-155.0	28682.0	-685.0	CORNER	-155.4	38051.0	-684.4	1205							
	OptLev ITMy, Rx Viewport	OL ITMY Rx VP	outer face	566.3	37787.3	509.9	BSC8	566.3	28418.3	509.9	CORNER	566.6	37787.3	510.0								
	OptLev ITMy Receiver	OL ITMY Rx	outer face	554.0	38051.0	525.0	BSC8	554.0	28682.0	525.0	CORNER	554.3	38051.0	525.1		2414						
	OptLev ETMx, Tx Viewport	OL ETMx Tx VP	outer face	4002880.7	-145.4	-748.0	BSC5	-3489.3	-145.4	-748.0	X-END	2880.7	-145.4	-748.0								
	OptLev ETMx Transmitter	OL ETMx Tx	outer face	4002626.7	-160.0	-755.0	BSC5	-3743.3	-160.0	-755.0	X-END	2626.7	-160.0	-755.0	1134							
	OptLev ETMx, Rx Viewport	OL ETMx Rx VP	outer face	4002880.7	566.3	509.9	BSC5	-3489.3	566.3	509.9	X-END	2880.7	566.3	509.9								
	OptLev ETMx Receiver	OL ETMx Rx	outer face	4002626.7	561.0	603.0	BSC5	-3743.3	561.0	603.0	X-END	2626.7	561.0	603.0		2492						
	OptLev ETMy, Tx Viewport	OL ETMY Tx VP	outer face	-145.4	4002880.7	-748.0	BSC6	-145.4	-3489.3	-748.0	Y-END	-145.9	2881.0	-747.0								
	OptLev ETMy Transmitter	OL ETMY Tx	outer face	-160.0	4002626.7	-755.0	BSC6	-160.0	-3743.3	-755.0	Y-END	-160.5	2626.9	-754.0	1135	1135						
	OptLev ETMy, Rx Viewport	OL ETMY Rx VP	outer face	566.3	4002880.7	509.9	BSC6	566.3	-3489.3	509.9	Y-END	566.6	2880.6	510.5								
	OptLev ETMy Receiver	OL ETMY Rx	outer face	556.0	4002626.7	594.0	BSC6	556.0	-3743.3	594.0	Y-END	556.4	2626.5	594.5			2484					
	PHOTON CALIBRATION (PCal)																					
	Pcal Viewport ETMx Transmit	Pcal ETMx Tx VP	outer face	4002880.7	-762.0	0.0	BSC5	-3489.3	-762.0	0.0	X-END	2880.7	-762.0	0.0								1889
	Pcal Viewport ETMx Receive	Pcal ETMx Rx VP	outer face	4002880.7	762.0	0.0	BSC5	-3489.3	762.0	0.0	X-END	2880.7	762.0	0.0								1889
	Pcal Beam 1 ETMx Inject	Pcal ETMx Tx1	ref	4002626.7	-800.0	0.0	BSC5	-3743.3	-800.0	0.0	X-END	2626.7	-800.0	0.0								1889
	Pcal Beam 2 ETMx Inject	Pcal ETMx Tx2	ref	4002626.7	-875.8	0.0	BSC5	-3743.3	-875.8	0.0	X-END	2626.7	-875.8	0.0								1889
	Pcal Beam 1 ETMx Periscope 1, Mirror	Pcal ETMx Per1 M1	HR	4003959.1	796.0	-307.0	BSC5	-2410.9	796.0	-307.0	X-END	3959.1	796.0	-307.0								1582
	Pcal Beam 1 ETMx Periscope 1, Mirror	Pcal ETMx Per1 M2	HR	4003994.1	690.0	-307.0	BSC5	-2375.9	690.0	-307.0	X-END	3994.1	690.0	-307.0								1582
	Pcal Beam 2 ETMx Periscope 2, Mirror	Pcal ETMx Per2 M1	HR	4003959.1	844.0	50.5	BSC5	-2410.9	844.0	50.5	X-END	3959.1	844.0	50.5								1940
	Pcal Beam 2 ETMx Periscope 2, Mirror	Pcal ETMx Per2 M2	HR	4003989.1	690.0	50.5	BSC5	-2380.9	690.0	50.5	X-END	3989.1	690.0	50.5								1940
	Pcal Viewport ETMy Receive	Pcal ETMY Rx VP	outer face	-762.0	4002880.7	0.0	BSC6	-762.0	-3489.3	0.0	Y-END	-762.0	2880.7	1.4								1891
	Pcal Viewport ETMy Transmit	Pcal ETMY Tx VP	outer face	762.0	4002880.7	0.0	BSC6	762.0	-3489.3	0.0	Y-END	762.0	2880.7	0.5								1890
	Pcal Beam 1 ETMy Inject	Pcal ETMY Tx1	ref	-800.0	4002626.7	0.0	BSC6	-800.0	-3743.3	0.0	Y-END	-800.0	2626.7	1.4								1890
	Pcal Beam 2 ETMy Inject	Pcal ETMY Tx2	ref	-875.8	4002626.7	0.0	BSC6	-875.8	-3743.3	0.0	Y-END	-875.8	2626.7	1.4								1891
	Pcal Beam 1 ETMy Periscope 1, Mirror	Pcal ETMY Per1 M1	HR	790.0	4003959.1	-307.0	BSC6	790.0	-2410.9	-307.0	Y-END	789.8	3959.2	-306.2								1583
	Pcal Beam 1 ETMy Periscope 1, Mirror	Pcal ETMY Per1 M2	HR	690.0	4003994.1	-307.0	BSC6	690.0	-2375.9	-307.0	Y-END	689.8	3994.2	-306.1								1583
	Pcal Beam 2 ETMy Periscope 2, Mirror	Pcal ETMY Per2 M1	HR	840.0	4003959.1	50.5	BSC6	840.0	-2410.9	50.5	Y-END	840.0	3959.1	51.3								1940
	Pcal Beam 2 ETMy Periscope 2, Mirror	Pcal ETMY Per2 M2	HR	690.0	4003989.1	50.5	BSC6	690.0	-2380.9	50.5	Y-END	690.0	3989.1	51.4								1940
L1	OPTICAL LEVERS (OptLev)																					
	OptLev BS Tx & Rx Viewport	OL BS VP	outer face	-1005.8	1005.8	0.0	BSC2	-1005.8	1005.8	0.0	CORNER	-1005.8	1005.8	-0.3								1850
	OptLev BS Transmitter	OL BS Tx	outer face	1230.0	-1253.0	0.0	BSC2	1230.0	-1253.0	0.0	CORNER	1230.0	-1253.0	0.4								1850
	OptLev BS Receiver	OL BS Rx	outer face	1258.6	-1229.4	0.0	BSC2	1258.6	-1229.4	0.0	CORNER	1258.6	-1229.4	0.4								1850

IFO	DESCRIPTION	LABEL	POINT*	GLOBAL (mm)			GLOBAL ALIGNED, CHAMBER CENTERED (mm)			BLDG.	BUILDING COORD. GRAVITY ALIGNED (mm)			HEIGHT ABOVE FLOOR (mm)	Large Dwarf	Leaner LH	Leaner RH	Small Dwarf	Giraffe LH	Giraffe RH	Medium Dwarf	name
				X	Y	Z	X	Y	Z		X	Y	Z									
				*center, unless otherwise specified																		
	PCal ETMx Periscope 2, Mirror 1	PC ETMX PERI2 M1	HR	3996773.7	-706.0	48.0	BSC9	86128.7	-925.1	204.5	X-END	-3226.3	-706.0	47.4	1897							
	PCal ETMx Periscope 2, Mirror 2	PC ETMX PERI2 M2	HR	3996773.7	-820.0	48.0	BSC9	86128.7	-1039.1	204.5	X-END	-3226.3	-820.0	47.5	1897							
	PCal Beam 1 ETMx receive	PC ETMX BEAM1 Rc	HR	3993969.7	-705.8	40.0	BSC9	83324.7	-924.9	196.5	X-END	-6030.3	-705.8	38.5	1888							
	PCal Beam 2 ETMx receive	PC ETMX BEAM2 Rc	HR	3993969.7	-789.0	40.0	BSC9	83324.7	-1008.1	196.5	X-END	-6030.3	-789.0	38.6	1888							
	Pcal Viewport ETMy Transmit	PC ETMY Tx VP	outer face	-762.0	3994223.7	0.0	BSC10	-762.0	-5776.3	0.0	Y-END	-762.0	-5776.3	0.1	1850							
	PCal Viewport ETMy Receive	PC ETMY Rc VP	outer face	762.0	3994223.7	0.0	BSC10	762.0	-5776.3	0.0	Y-END	762.0	-5776.3	-0.3	1850							
	PCal Beam 1 ETMy Inject	PC ETMY BEAM1 IN	ref	751.0	3993969.7	0.0	BSC10	751.0	-6030.3	0.0	Y-END	751.0	-6030.3	-0.3	1850							
	PCal Beam 2 ETMy Inject	PC ETMY BEAM2 IN	ref	827.0	3993969.7	0.0	BSC10	827.0	-6030.3	0.0	Y-END	827.0	-6030.3	-0.4	1850							
	PCal ETMy Periscope 1, Mirror 1	PC ETMY PERI1 M1	HR	-670.0	3996773.7	-289.0	BSC10	-670.0	-3226.3	-289.0	Y-END	-670.1	-3226.3	-288.9	1561							
	PCal ETMy Periscope 1, Mirror 2	PC ETMY PERI1 M2	HR	-820.0	3996773.7	-289.0	BSC10	-820.0	-3226.3	-289.0	Y-END	-820.1	-3226.3	-288.8	1561							
	PCal ETMy Periscope 2, Mirror 1	PC ETMY PERI2 M1	HR	-706.0	3996773.7	48.0	BSC10	-706.0	-3226.3	48.0	Y-END	-706.0	-3226.3	48.2	1898							
	PCal ETMy Periscope 2, Mirror 2	PC ETMY PERI2 M2	HR	-820.0	3996773.7	48.0	BSC10	-820.0	-3226.3	48.0	Y-END	-820.0	-3226.3	48.2	1898							
	PCal Beam 1 ETMy receive	PC ETMY BEAM1 Rc	HR	-705.8	3993969.7	40.0	BSC10	-705.8	-6030.3	40.0	Y-END	-705.8	-6030.3	40.1	1890							
	PCal Beam 2 ETMy receive	PC ETMY BEAM2 Rc	HR	-789.0	3993969.7	40.0	BSC10	-789.0	-6030.3	40.0	Y-END	-789.0	-6030.3	40.1	1890							

Max Height (mm)	1205	2492	2484	924	2703	2661	1004
Min Height (mm)	1123	2363	2352	854	2635	2626	938
Range (mm)	82	129	132	70	68	36	67
Range (in)	3.22	5.07	5.19	2.75	2.68	1.40	2.62

	D1001339	D1001325	D1001330	D1001334	D1001166	D1001170	D1001851	assemblies
OpLev TM Tx Assy	OpLev & Pcal TM Rx Assy, LH	OpLev & Pcal TM Rx Assy, RH	OpLev PR3/SR3 Tx Assy	OpLev PR3/SR3 Rx Assy, LH	OpLev SR3 Rx Assy, RH	OpLev HAM Tx/Rx Assy		