

FLIR Thermal Security Camera Range Data

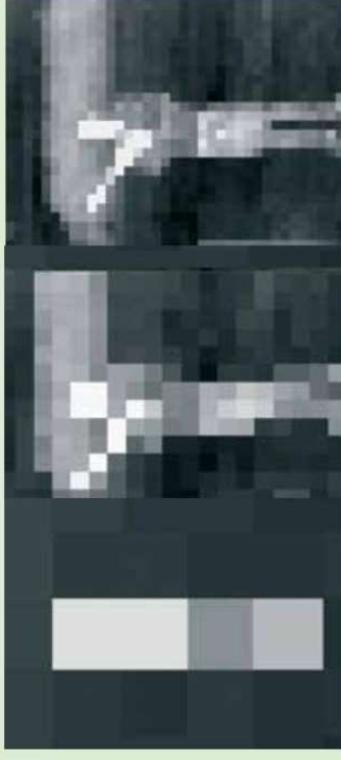
Assumptions:

- All range values are calculated using the Johnson Criteria unless marked as “VA” for video analytics
 - Johnson Criteria ranges are calculated using the criteria listed to the right
- VA range values represent the maximum distance to classify in the best-case scenario.
- Range data assumes good environmental conditions. Performance will be degraded in rain, fog, high humidity, etc.

The Johnson Criteria assume that the critical dimension for a human being is 0.75 meters. To get DRI, you need 1.5 pixels, 6 pixels and 12 pixels across 0.75 meters in the object plane. That means:

1.5 pixels/0.75m = 2 pixels per meter
 6 pixels/0.75m = 8 pixels/meter
 12 pixels/0.75m = 16 pixels/meter

Let us assume a man is 1.8m by 0.5m. So the man should be covered by:



Detection =
3.6 pixels by 1 pixel
 You can see something is there.

Recognition =
14.4 pixels by 4 pixels
 You can see that a person is there.

Identification =
28.8 pixels by 8 pixels
 You can see that the person is holding a rifle.

Images only intended to represent the concept.



FH-ID and FH-R:

		Thermal Imager Specs					Human				Vehicle			
Model	Lens EFL [mm]	Pixel Pitch [um]	Horiz Res	Detection [m]	Recognition [m]	Identification [m]	VA Classification [m]		Detection [m]	Recognition [m]	Identification [m]	VA Classification [m]		
							Thermal	Vis				Thermal	Vis	
FH-369	9	34	320	133	33	17	26	72	407	102	51	50	119	
FH-324	13	34	320	382	95	48	74	205	1171	293	146	122	313	
FH-313	25	17	320	705	176	88	140	394	2163	541	270	218	580	
FH-ID	9	17	640	266	66	33	51	72	815	203	102	88	119	
FH-R	13	17	640	417	104	52	74	102	1278	319	160	122	165	
	25	17	640	734	183	92	140	197	2249	561	282	217	301	
	35	17	640	1079	270	135	196	276	3307	827	413	299	414	
	50	17	640	1528	382	191	280	394	4686	1171	586	420	580	
	60	17	640	1833	458	229	336	467	5623	1406	703	504	697	
	75	17	640	2236	559	279	420	584	6857	1714	857	619	870	



FC-ID and FC-O:

Model	Lens EFL [mm]	Pixel Pitch [µm]	Horiz Res	Human				Vehicle			
				Detection [m]	Recognition [m]	Identification [m]	VA Classification for ID version [m]	Detection [m]	Recognition [m]	Identification [m]	VA Classification for ID version [m]
FC-369	9	34	320	133	33	17	32	407	102	51	44
FC-344	13	34	320	208	52	26	51	639	160	80	68
FC-332	19	34	320	286	72	36	70	879	220	110	93
FC-324	13	17	320	382	95	48	101	1171	293	146	134
FC-317	19	17	320	539	135	67	139	1654	413	207	185
FC-313	25	17	320	705	176	88	180	2163	541	270	230
FC-309	35	17	320	996	249	125	255	3056	764	382	330
FC-305	60	17	320	1698	424	212	440	5206	1302	651	586
FC-304	75	17	320	2132	533	266	547	6538	1634	817	727
FC-690	7.5	17	640	204	51	25	50	625	156	78	67
FC-669	9	17	640	266	66	33	65	815	203	102	87
FC-644	13	17	640	417	104	52	102	1278	319	160	136
FC-632	19	17	640	573	143	72	140	1757	439	220	186
FC-625	25	17	640	734	183	92	178	2249	561	282	240
FC-617	35	17	640	1079	270	135	279	3307	827	413	370
FC-610	60	17	640	1833	458	229	440	5623	1406	703	586
FC-608	75	17	640	2236	559	279	547	6857	1714	857	727



PT-HD:

Model	Lens EFL [mm]	Pixel Pitch[um]	Horiz Res	Human			Vehicle		
				Detection [m]	Recognition [m]	Identification [m]	Detection [m]	Recognition [m]	Identification [m]
PT-644	13	17	640	417	104	52	1278	319	160
PT-625	25	17	640	733	183	92	2249	562	281
PT-617	35	17	640	1079	270	135	3307	827	413
PT-612	50	17	640	1528	382	191	4686	1171	586
PT-608	75	17	640	2132	533	266	6538	1634	817
PT-606Z	105	17	640	3056	764	382	9371	2343	1171
PT-602CZ	275	15	640	12941	4007	3289	19904	8419	7238



F-ID:

Model	Lens EFL [mm]	Pixel Pitch [µm]	Horiz Res	Human			Vehicle				
				Detection [m]	Recognition [m]	Identification [m]	VA Classification [m]	Detection [m]	Recognition [m]	Identification [m]	VA Classification [m]
F-644 ID	13	17	640	417	104	52	102	1278	319	160	145
F-625 ID	25	17	640	733	183	92	178	2249	562	281	256
F-617 ID	35	17	640	1079	270	135	263	3307	827	413	376
F-612 ID	50	17	640	1528	382	191	373	4686	1171	586	533
F-610 ID	65	17	640	1910	477	239	447	5857	1464	732	640
F-608 ID	75	17	640	2132	533	266	520	6538	1634	817	744
F-606 ID	100	17	640	2957	739	370	721	9069	2267	1134	1032



FB-ID and FB-O:

Model	Lens EFL [mm]	Pixel Pitch [um]	Horiz Res	Human			Vehicle				
				Detection [m]	Recognition [m]	Identification [m]	VA Classification for ID version [m]	Detection [m]	Recognition [m]	Identification [m]	VA Classification for ID version [m]
FB-393	3.7	17	320	99	25	12	24	302	76	38	34
FB-349	6.8	17	320	187	47	23	46	574	143	72	65
FB-324	12.8	17	320	382	95	48	93	1171	293	146	133
FB-312	18	12	320	764	191	95	186	2343	586	293	266
FB-309	24	12	320	1019	255	127	248	3124	781	390	355
FB-695	4.9	12	640	193	48	24	47	592	148	74	67
FB-650	8.7	12	640	367	92	46	89	1125	281	141	128
FB-632	14	12	640	573	143	72	140	1757	439	220	200
FB-618	24	12	640	1019	255	127	248	3124	781	390	355



DM-Series:

Model	Lens EFL [mm]	Pixel Pitch[um]	Horiz Res	Human			Vehicle		
				Detection[m]	Recognition [m]	Identification [m]	Detection[m]	Recognition [m]	Identification [m]
DM-392	2.3	12	320	100	25	12	306	76	38
DM-350	4.3	12	320	183	46	23	562	141	70
DM-324	9.1	12	320	382	95	48	1171	293	146
DM-312	18	12	320	764	191	95	2343	586	293
DM-695	4.9	12	640	193	48	24	592	148	74
DM-650	8.7	12	640	367	92	46	1125	281	141
DM-624	18	12	640	764	191	95	2343	586	293
DM-612	36	12	640	1528	382	191	4686	1171	586



DX-Series:

Model	Lens EFL [mm]	Pixel Pitch[um]	Horiz Res	Human			Vehicle		
				Detection [m]	Recognition [m]	Identification [m]	Detection [m]	Recognition [m]	Identification [m]
DX-350	4.3	12	320	183	46	23	562	141	70
DX-324	9.1	12	320	382	95	48	1171	293	146
DX-312	18	12	320	764	191	95	2343	586	293
DX-306	36	12	320	1528	382	191	4686	1171	586
DX-650	8.7	12	640	367	92	46	1125	281	141
DX-624	18	12	640	764	191	95	2343	586	293
DX-612	36	12	640	1528	382	191	4686	1171	586
DX-608	55	12	640	2292	573	286	7028	1757	879



HDC MR UC

	Model	Lens EFL [mm]	Horiz Res	Human			Vehicle		
				Detection [m]	Recognition [m]	Identification [m]	Detection [m]	Recognition [m]	Identification [m]
HDC MR	Uncooled	183	1024	5400	1480	675	13000	4150	1870