

APPENDIX B Factory Global and Operational Configuration Settings

Camera Configuration Constants

Global Parameter	Base Value
Number of active columns	320
Number of active rows	256
Number of ports	1
Pixel Pitch	12.5 μm
Wavelength Response Cutoff	1.7 μm
Pixel clock frequency (Mpixels/s/port)	20.75
Thermoelectric Cooler Temperature Set Point	18°C, 32°C, 45°C

Factory Global Configuration Settings

Global Parameter	Base Value
Offset Correction	ON
Gain Correction	ON
Defect Pixel Correction	ON
Defect Pixel Map	OFF
Raw Gain (before Corrections)	1.06250X
Raw Offset (before Corrections)	varies
Corr Global Gain	1.50000X (48)
Corr Global Offset	60
Trigger Mode	0
Trigger Source	1
Trigger Polarity	0
Trigger Delay	0
Test Pattern	OFF
AGC State	ON
AGC Upper Operational Setting Number (TEC@18°C)	14
AGC Lower Operational Setting Number (TEC@18°C)	0
AGC Upper Operational Setting Number (TEC@32°C)	15
AGC Lower Operational Setting Number (TEC@32°C)	28
AGC Upper Operational Setting Number (TEC@45°C)	29
AGC Lower Operational Setting Number (TEC@45°C)	41
Digital Data Source	ENH
Communication Baud Rate	57600
Communication Echo Mode	1
Communication Echo Character	43
Response Mode	VERBOSE
Startup Operational Setting	11
LED State	ON

Factory Operational Configuration Settings

OPR	TEC Setpoint (°C)	Exposure Period Count	Exposure Time (ms)	Frame Period Count	Frame Period Time (ms)	Nominal FPA Gain (e-/count)
0	18	4201	0.20	345839	16.67	11000
1	18	5875	0.28	345839	16.67	6200
2	18	8224	0.39	345839	16.67	3500
3	18	11520	0.55	345839	16.67	2000
4	18	16145	0.78	345839	16.67	1100
5	18	22636	1.09	345839	16.67	620
6	18	31745	1.53	345839	16.67	350
7	18	44528	2.14	345839	16.67	190
8	18	62466	3.01	345839	16.67	110
9	18	87639	4.22	345839	16.67	62
10	18	122965	5.92	345839	16.67	35
11	18	172538	8.31	345839	16.67	19
12	18	242105	11.67	345839	16.67	11
13	18	339729	16.37	345839	16.67	6.1
14	18	684801	33.00	691679	33.33	8.8
15	32	4201	0.20	345839	16.67	11000
16	32	6042	0.29	345839	16.67	6300
17	32	8698	0.42	345839	16.67	3700
18	32	12534	0.60	345839	16.67	2100
19	32	18070	0.87	345839	16.67	1200
20	32	26061	1.25	345839	16.67	700
21	32	37596	1.81	345839	16.67	400
22	32	54248	2.61	345839	16.67	230
23	32	78285	3.77	345839	16.67	130
24	32	112982	5.44	345839	16.67	78
25	32	163067	7.86	345839	16.67	45
26	32	235365	11.34	345839	16.67	26
27	32	339729	16.37	345839	16.67	15
28	32	684801	33.00	691679	33.33	17
29	45	4201	0.20	345839	16.67	11000
30	45	6245	0.30	345839	16.67	6300
31	45	9295	0.45	345839	16.67	3600
32	45	13848	0.66	345839	16.67	2000
33	45	20643	0.99	345839	16.67	1200
34	45	30784	1.48	345839	16.67	670
35	45	45919	2.21	345839	16.67	380
36	45	68509	3.30	345839	16.67	220
37	45	102224	4.92	345839	16.67	120
38	45	152542	7.35	345839	16.67	71
39	45	227642	10.97	345839	16.67	40
40	45	339729	16.37	345839	16.67	23
41	45	684801	33.00	691679	33.33	25

Clock Rate = 20750000 (20.75MHz)

Overhead Time = 51 counts

Exposure Time (ms) = ((Exposure Period Count – Overhead Time) / Clock Rate) * 1000
 Frame Period Time (ms) = (Frame Period Count / Clock Rate) * 1000

Factory Configured Macros

MACRO 0	MACRO 1	MACRO 2
AGC:ENABLE OFF AGC:OPR:HIG 14 AGC:OPR:LOW 0 OPR:START 10 OPR 0 AGC:ENABLE ON	AGC:ENABLE OFF AGC:OPR:HIG 28 AGC:OPR:LOW 15 OPR:START 25 OPR 15 AGC:ENABLE ON	AGC:ENABLE OFF AGC:OPR:HIG 41 AGC:OPR:LOW 29 OPR:START 39 OPR 29 AGC:ENABLE ON
Sets the camera for low case temperature AGC range of -40°C to 35°C operation.	Sets the camera for middle case temperature AGC range of 0°C to 55°C operation.	Sets the camera for high case temperature AGC range of 20°C to 71°C operation.

MACRO 3	MACRO 4	MACRO 5
AGC:ENABLE OFF AGC:OPR:HIG 13 AGC:OPR:LOW 0 OPR:START 10 OPR 0 AGC:ENABLE ON	AGC:ENABLE OFF AGC:OPR:HIG 27 AGC:OPR:LOW 15 OPR:START 25 OPR 15 AGC:ENABLE ON	AGC:ENABLE OFF AGC:OPR:HIG 40 AGC:OPR:LOW 29 OPR:START 39 OPR 29 AGC:ENABLE ON
60Hz only. Sets the camera for low case temperature AGC range of -40°C to 35°C operation.	60Hz only. Sets the camera for middle case temperature AGC range of -0°C to 55°C operation.	60Hz only. Sets the camera for high case temperature AGC range of 20°C to 71°C operation.