BOSCH EXTREME CCTV QUICK GUIDE

BOSCH
Invented for life

		MIC440AX Explosion Protected PTZ Camera	EX52 Explosion Protected Compact Camerea	EX70 / EX70N Explosion Protected	EX72 / EX72N Explosion Protected	EX60LED Explosion Protected IR	EX72LED Explosion Protected IR	EX62XF Explosion Protected Housing with LTC 0620	EX62 Explosion Protected Camera Housing
EXPLOSION PROTECTED									
Certifications		ATEX Directive: 94/9/EC EC Exd IIC T6 CSA C/US Class 1, Division 1, Groups CD Class 11, Division 1, Groups EFG Temperatur Code T6	CSA-NRTL - LR 113310 9098 01 / 81 Miscellaneous OSHA / ANSI / UL / CSA CSA C22.2 No.0-M1991; No.0.4-M1982; No.25-M1966; No.94-M1991; No.142-M1987 Class I, Div 1, 2, Groups A, B, C, D Class II, Div 1, 2, Groups E, F, G Class III UL 508, 16th Edition; UL 698, 11th Edition UL 1203 Explosion-Proof Temperature Code T6	CSA-NRTL - LR 113310 Class 2258/82 and 2258/02 - Process Contr. OSHA / ANSI / UL / CSA CSA C22.2 No.0-M1991; No.0.4-04; No.25-M1966; No. 30-M1986; No.94-M1991 No.142-M1987 Class I, Div 1, 2, Groups B, C, D Class II, Div 1, 2, Groups E, F, G Class III UL 508, 16th Edition; UL 698, 11th Edition UL 1203, 3nd Edition Explosion-Proof ATEX Ex II 2G and ATEX Ex d IIC T6 Temperature Code T6	CSA-NRTL - LR 113310 Class 2258/82 and 2258/02 - Process Contr. OSHA / ANSI / UL / CSA CSA C22.2 No.0-M1991; No.0.4-04; No.25-M1966; No. 30-M1986; No.94-M1991 No.142-M1987 Class I, Div 1, 2, Groups B, C, D Class II, Div 1, 2, Groups E, F, G Class III UL 508, 16th Edition; UL 698, 11th Edition UL 1203, 3nd Edition Explosion-Proof ATEX Ex II 2G and ATEX Ex d IIC T6 Temperature Code T6	CSA-NRTL - LR 113310 9098 01 / 81 Miscellaneous OSHA / ANSI / UL / CSA CSA C22.2 No.0-M1991; No.0.4-M1982; No.25-M1966; No. 30-M1986; No.94-M1991 No.142-M1987 Class I, Div 1, 2, Groups A, B, C, D Class II, Div 1, 2, Groups E, F, G Class III UL 508, 16th Edition; UL 698, 11th Edition UL 1203 Explosion-Proof Temperature Code T6	CSA-NRTL - LR 113310 Class 2258/82 and 2258/02 - Process Contr. OSHA / ANSI / UL / CSA CSA C22.2 No.0-M1991; No.0.4-M1982; No.25-M1966; No. 30-M1986; No.94-M1991 No.142-M1987 Class I, Div 1, 2, Groups B, C, D Class II, Div 1, 2, Groups E, F, G Class III UL 508, 16th Edition; UL 698, 11th Edition UL 1203, 2nd Edition Explosion-Proof Temperature Code T6	CSA-NRTL - LR 113310 9098 01 / 81 Miscellaneous OSHA / ANSI / UL / CSA CSA C22.2 No.0-M1991; No.0.4-M1982; No.25-M1966; No. 30-M1986; No.94-M1991 No.142-M1987 Class I, Div 1, 2, Groups A, B, C, D Class II, Div 1, 2, Groups E, F, G Class III UL 508, 16th Edition; UL 698, 11th Edition UL 1203 Explosion-Proof Temperature Code T6	CSA-NRTL - LR 113310 9098 01 / 81 Miscellaneous OSHA / ANSI / UL / CSA CSA C22.2 No.0-M1991; No.0.4-M1982; No.25-M1966; No. 30-M1986; No.94-M1991 No.142-M1987 Class I, Div 1, 2, Groups A, B, C, D Class II, Div 1, 2, Groups E, F, G Class III UL 508, 16th Edition; UL 698, 11th Edition UL 1203 Explosion-Proof Temperature Code T6
Environmental	Operational temperature	-20 °C to +60 °C	-50 °C to +50 °C	-50 °C to +40 °C	-50 °C to +40 °C	-50 °C to +55 °C	-50 °C to +40 °C	max +50 °C	max +55 °C
	Weather proofing	NEMA 4x / IP68	CSA / NEMA TYPE 4	CSA / NEMA TYPE 4	CSA / NEMA TYPE 4	CSA / NEMA TYPE 4	CSA / NEMA TYPE 4	CSA / NEMA TYPE 4	CSA / NEMA TYPE 4
Camera	Image sensor 1	1/4 in EXview CCD	MX4 Extended. Hi-Res Day/Night CCD	MX4 LXR Day/Night CCD (EX70N)	MX4 Extended. Day/Night CCD (EX72N)	-	-	1/2 inch interline transfer CCD	-
	Horizontal resolution	470 TVL NTSC / 460 TVL PAL (wide)	540 TVL color / 540 TVL monochrome	540 TVL color / 570 TVL monochrome	540 TVL color / 540 TVL monochrome	-	-	540TVL	-
	Image sensor 2			MX4 with MFP Technology (EX70)	MX4 LXR Mechanical Filter (EX72)	-	-	-	-
	Horizontal resolution			550 TVL color / 570 TVL monochrome	540 TVL color / 540 TVL monochrome	-	-	-	-
	Image sensor 3		C7 High Resolution Color	C7 High Resolution Color (EX70)	C7 High Resolution Color (EX72)	-	-	-	-
	Horizontal resolution		500 TVL	480 TVL	500 TVL	-	-	-	-
	Effective Picels		NTSC: 768 x 494 / PAL: 752 x 582	NTSC: 768 x 494 / PAL: 752 x 582	NTSC: 768 x 494 / PAL: 752 x 582	-	-	NTSC : 768 x 492 / PAL: 752 x 582	-
	Filter	Automatic mechanical IR cut filter	Dual-window mechanical type	Enhanced IR Sensitivity (EX70N)	Enhanced IR Sensitivity (EX72N)	-	-	Automatic mechanical IR cut filter	-
	Focus system	Auto or manual				-	-	Manual	-
	Iris	Auto or manual with slow shutter integration modes	1/60 to 1/100,000 (NTSC) 1/50 to 1/100,000 (PAL)	1/60 to 1/100,000 (EIA)	1/60 to 1/100,000 (NTSC) 1/50 to 1/100,000 (PAL)	-	-	Auto (1/60 (1/50) to 1/500000)	-
	Recommended illumination	100 to 100,000 lux				-	-	-	-
	Signal/Noise ratio	50 dB or more	Greater than 48 dB (AGC off)	Greater than 48 dB (AGC off)	Greater than 48 dB (AGC off)	-	-	>50dB	-
	Back Light Compensation (BLC)	On/Off				-	-	area and level selectable	-
	White balance	Automatic	-	-	-	-	-	ATW(2500-10000 K), AWB hold, Manual WB Selectable	-
	Automatic Gain Control (AGC)	-3 to -28 dB, 2 dB steps	ACG	AGC	AGC	-	-	Auto (upto 28dB) or fixed level	-
	Aperture control	16 Steps	-	-	-	-	-	-	-
	Gamma		0.45		0.45	-	-	-	-
Option 1	Lens	F=4.1 mm to 73.8 mm , F1.4 to F3.0	4 to 9 mm or 9 to 22 mm variofocal lens auto iris	3.6; 4.3; 6.0; 8.0 and 12 mm fixed lenses	4 to 9 mm or 9 to 22 mm variofocal lens auto iris	-	-	4 to 12mm or 10 to 40mm	-
	Zoom	18x optical (12x digital)	-	-	-	-	-	-	-
	Angle of view	48° (wide) to 2.8° (tele)				-	-	-	-
	Minimum illumination	0.7 lux (F1.4, 1/60 s NTSC, 1/50 s PAL), 0.11 lux (F1.4, 1/4 s NTSC, 1/3 s PAL), 0.01 lux or less (F1.4, 1/4 s NTSC, 1/3 s PAL, ICR ON)	0.02 lux at F1.4 (MX4) 2.7 lux at F1.4 (C7)	0.02 lux at F1.4 (MX4) 2.7 lux at F1.4 (C7)	0.02 lux at F1.4 (MX4) 2.7 lux at F1.4 (C7)	-	-	50 IRE : 0.31 lux / 0.052 lux (mono) 30 IRE : 0.18 lux / 0.024 lux (mono) SensUp : 0.018 lux / 0.0024 lux (mono)	-
	Shutter speed	1/1 to 1/10,000 s (22 steps) NTSC, PAL				-	-	1/60 (1/50) to 1/500000)	-
Option 2	Lens	F=3.4 mm to 122.4 mm, F1.6 to F4.5	-	-	-	-	-	-	-
	Zoom	36x optical (12x digital)	-	-	-	-	-	-	-
	Angle of view	57.8° (wide) to 1.7° (tele)	-	-	-	-	-	-	-
	Minimum illumination	1.4 lux (1/60 s NTSC, 1/50 s PAL), 0.1 lux (1/4 s NTSC, 1/3 s PAL), 0.01 lux or less 1/4 s NTSC, 1/3 s PAL, ICR ON)	-	-	-	-	-	-	-
	Shutter speed	1/4 to 1/10,000 s (20 steps) NTSC, 1/3 to 1/10,000 s (20 steps) PAL	-	-	-	-	-	-	-
IR	Wavelength / Beam pattern opt.	-	-	850 nm	850 nm	850 nm (30°, 60°) or 940 nm (30°)	850 nm (30°, 60°) or 940 nm (30°)	-	-
	Night vision distance	-	-	12 m	12 m	18 m	18 m	-	-
	IR operational life	-	-	-	-	10 years	10 years	-	-
Operational	Presets	64 telemetry presets utilizing resolver technology (using FV protocol, 10 camera set-up presets to allow ANPR, color correction etc.)	-	-	-	-	-	-	-
	Preset tours	6 tours each with up to 32 presets	-	-	-	-	-	-	-
	Preset titles	20 character	-	-	-	-	-	-	-
Protocols	Control protocol	Bosch*, Pelco P/D or FV protocol	-	-	-	-	-	-	-
Alarms	Alarm inputs	1 tamper input (4 alarm inputs availible via PSU)	-	-	-	-	-	-	-
Mechanical	Pan angle	360° continuous rotation	-	-	-	-	-	-	-
	Pan speed	Up to 90° per second (variable)	-	-	-	-	-	-	-
	Tilt angle	320°	-	-	-	-	-	-	-
	Tilt speed	0.2° to 90° per second (variable)	-	-	-	-	-	-	-
	Preset accuracy	Better than 0.08°	-	-	-	-	-	-	-
	Proportional P/T to zoom	Yes	-	-	-	-	-	-	-
Construction	Construction material	Solid aluminum	Robust aluminum extrusion with four entry plugs	Sand-cast, copper-free aluminium	Sand-cast, copper-free aluminium	Extruded and cast aluminium Cooper-Free	High-strength reinforced aluminium	Robust aluminum extrusion with four 3/4 inch NPT conduit entries	Robust aluminum extrusion with four entry plugs
	Viewing window	Tempered flat glass	Tempered view window			3/8 in. Tempered View Window		Copper-free Tempered view window	Tempered view window
	Standard colors	Standard black		Black	Black	Aluminium	Black	Aluminium	Aluminium
	Dimensions (upright WxHxD)	286 x 523.6 x 189 mm	Approximately 86 Ø x 305 mm length	117 x 117 x 99 mm (EX72)	145 x 135 x 144 mm (EX72N) 117 x 117 x 99 mm (EX72)	128 x 191 mm	145 x 135 x 145 mm	Approx. 127mm diameter x 355mm length	Approx. 127mm diameter x 355mm length
	Weight	15.5 kg (incl. PCD base)	4.5 kg	1.4 kg	2.7 kg	4.5 kg	2.8 kg	8.5 kg	5.6 kg
Electrical	Power Supply	18 VDC or 15 VAC	12 to 24 VDC/VAC	12 to 24 VDC/VAC	12 or 24 VDC/VAC	12 VDC or 24 VAC	12 VDC or 24 VAC	12 - 24 VDC or 12 - 24 VAC(50/60Hz)	
	Power Consumption	25.2 W max	5 W			15 W	15 W	40W	

* Bosch protocol requires Biphase to RS485 converter (MIC-BP4) available separately. Other protocols supported. Please consult separate protocol list for