SMARTDISPLAY™ Product Selector

nkk SWITCHES

	SmartDisplay Engineering Kits Include USB, Auxiliary Port, Source Code	PCB Mount Momentary Switch 23.13 x 20.59 x 23mm	PCB Mount Momentary Compact Switch 19 x 18 x 23mm	PCB Mount Display 17.8 x 17.2 x 9.9mm
LCD 36 x 24		**Monochrome** **Graphic Pixels:** 36 x 24 **Life:** 50,000 hours **Available Part Nos:** 3 **Backlight:** Bicolor or RGB **Travel:** 1.8mm **Operations:** 1,000,000 Minimum **Eng Kits:** IS-ENG-KIT-5-SC, IS-ENG-KIT-5-BC	**Monochrome** **Graphic Pixels:** 36 x 24 **Life:** 50,000 hours **Available Part Nos:** 2 **Backlight:** Bicolor or RGB **Travel:** 1.8mm **Operations:** 1,000,000 Minimum **Eng Kits:** IS-ENG-KIT-5-SC, IS-ENG-KIT-5-BC	**Monochrome** **Graphic Pixels:** 36 x 24 **Life:** 50,000 hours **Available Part Nos:** 2 **Backlight:** Bicolor or RGB **Eng Kit:** IS-ENG-KIT-5-DC
LCD 64 x 32		**Monochrome** **Graphic Pixels:** 64 x 32 **Life:** 50,000 Hours **Available Part Nos:** 2 **Backlight:** RGB **Travel:** 1.8mm or Long Travel 4.5mm **Operations:** 1,000,000 or 3,000,000 Minimum Switch with 1.8mm Travel has Same Footprint as Compact **Eng Kit:** IS-ENG-KIT-6-SH	**Monochrome** **Graphic Pixels:** 64 x 32 **Life:** 50,000 Hours **Available Part No:** 1 **Backlight:** RGB **Travel:** 1.8mm **Operations:** 1,000,000 Minimum Same Footprint as Standard Switch with 1.8mm Travel **Eng Kit:** IS-ENG-KIT-6-CH	**Monochrome** **Graphic Pixels:** 64 x 32 **Life:** 50,000 Hours **Available Part No:** 1 **Backlight:** RGB **Eng Kit:** IS-ENG-KIT-5-DH
OLED COLOR		**65K Colors per Pixel Graphic Display** **Pixels:** Frameless Switch: 96RGB x 64 Standard Switch: 64RGB x 48 **Life:** Frameless: 50,000 Hours Standard: 30,000 Hours **Available Part Nos:** 3 **Travel:** 1.8mm or Long Travel 4.5mm **Operations:** 1,000,000 or 3,000,000 Minimum **Eng Kits:** IS-ENG-KIT-7-FF, IS-ENG-KIT-7-FS	Not Available	**65K Colors per Pixel Graphic Display** **Pixels:** 52RGB x 36 **Life:** 30,000 hours **Available Part No:** 1 **Eng Kit:** IS-ENG-KIT-7-DS

	Panel Mount Rocker • 3 Momentary Switches 37.9 x 50.7 x 20.2mm		
OLED MONOCHROME	**White Monochrome** **Graphic Pixels:** 96 x 64 **Life:** 52,000 hours **Available Part No:** 1 **Travel:** 1.3±0.5mm at Center of Cap; 1.8±0.6mm at Top and Bottom **Operations:** 1,000,000 Minimum	**Conforms to IP64 of IEC60529 Standards** on Panel Surface. Dust Tight Construction Prevents Entry of Dust, Improves Contact Reliability. SP3T Switch Rocker (ON) (ON) (ON) Pushbuttons Normally OFF	**Multifunction Programmable Device:** Select with Rocker, Push for Activation Short, 14.6mm Behind Panel Height for Compact Spaces **Design Kit:** IS18WWC1W-K **Eng Kit:** IS-ENG-KIT-8-R

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	LCD 36 x 24	LCD 64 x 32	FRAMELESS / OLED COLOR	OLED MONOCHROME
BACKLIGHT CONTROL	Discrete	Software Command	Not Applicable	Not Applicable
BACKLIGHT COLORS	Limited Only By Customer Design	64	Not Applicable	Not Applicable
DISPLAY CONTROL	Serial	Serial	Serial (SPI)	Serial (SPI)
VIEW ANGLE UP & DOWN	90°	90°	180°	180°
VIEW ANGLE RIGHT & LEFT	90°	90°	180°	180°
DISPLAY CONTROL PINS	4 (CLK, Data, LP, FLM)	2 or 3 (CLK, Data, Select)	5 (CLK, Data, D/C, Select, Reset)	5 (CLK, Data, D/C, Select, Reset)
VIDEO	No	No	50 Frames per Second/ 100 Frames per Second	Animation
DISPLAY PIXELS	36 x 24	64 x 32	Frameless Switch: 96RGB x 64 Standard Switches: 64RGB x 48 Display: 52RGB x 36	96 x 64
MAXIMUM CLOCK FREQUENCY	8 MHz	8 MHz	6.6 MHz	10 MHz
DISPLAY REFRESH	Yes	No	No	No
INITIALIZATION	No	No	Yes	Yes
LOGIC / DISPLAY VOLTAGE	3V ~ 5V / 7.3V	5V / 5V	3V / 15V	3V / 15V
LOGIC CURRENT	0.5mA Maximum	10.0mA Maximum	0.2mA Maximum	0.72mA Maximum
DISPLAY CURRENT	2mA Maximum	Included in the Logic Current	All Pixels ON: Frameless Switch: 13.2mA Max Standard Switch: 4.6mA Max Display: 2.9mA Max	All Pixels ON: 13.62mA Maximum
BACKLIGHT CURRENT	0 ~ 40mA	0 ~ 40mA	——	——
OPERATING TEMP	–20° ~ +60°C (–4° ~ +140°F)	–15° ~ +50°C (+5° ~ +122°F)	–20° ~ +70°C (–4° ~ +158°F)	–20° ~ +70°C (–4° ~ +158°F)
STORAGE TEMP	–30° ~ +70°C (–22 ~ +158°F)	–20° ~ +60°C (–4° ~ +140°F)	–30° ~ +80°C (–22° ~ +176°F)	–25° ~ +80°C (–13° ~ +176°F)
IP RATING	Not Applicable to PCB Mount; Seal Possible With Overlay	Not Applicable to PCB Mount; Seal Possible With Overlay	Not Applicable to PCB Mount; Seal Possible With Overlay	IP64
FEATURES	Up to 3 Lines, 6 Characters	Up to 4 Lines, 10 Characters	Up to 8 Lines, 16 Characters	Up to 8 Lines, 16 Characters
	Flexible Backlight Control	Ease of Control	Excellent Contrast	Excellent Contrast
	Multiple Displays Can Be Controlled with 4 Control Lines by Daisy-Chaining	Backlight and LCD Display Controlled with 3 Commands	180° Viewing Angle	180° Viewing Angle
	Different Backlighting for Different Modes of Operation	Different Backlighting for Different Modes of Operation	65K Vivid Colors Per Pixel	Simplify Complex Panels with One Device
	Low Cost	8 Levels of Brightness Controlled via Software	16 Levels of Brightness Controlled via Software	16 Levels of Brightness Controlled via Software
	Sunlight Readable	Sunlight Readable	Graphics Capability via Software	Low Profile, Panel Mount
	Low Power	Low Power, Single Voltage	Low Power	Low Power