



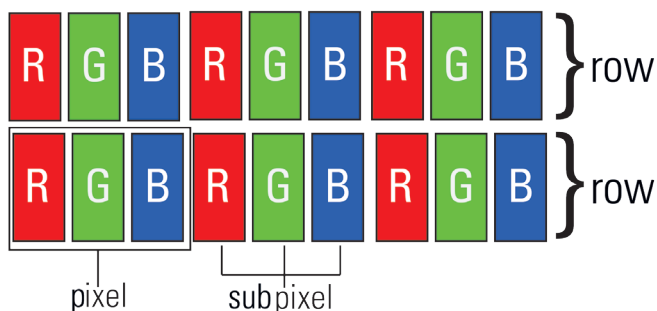
DATA DISPLAY GROUP

INFORMATION PIXEL ERROR CLASSES

www.datadisplay-group.com

Why there are defective pixels?

The production of high-quality TFT displays is a complex process. Displays with zero pixel error are very rare. Single defective pixels often do not catch the eye, especially if the pixels are not a total fade-out.



Because of this technological complexity in the manufacturing process, the manufacturers do not guarantee fault-free TFT panels, but expect the acceptance of a certain fault tolerance. That means approximately 1 pixel per million (1 ppm) can be displayed on the display brighter or darker. This does not affect the device performance. Therefore, the produced TFT panels are distinguished in pixel error classes. These defect classes are subject to the ISO 9241-307 standard.

The TFT panels offered by the Data Display Group have Class II. This means these panels are allowed to have 2 pixels per million which illuminate permanently or are black pixels (dead pixels). Alternatively, 5 subpixels (color red, green and blue) can also be permanently defective.

For a current monitor with a resolution of 1,920x1,080 pixels there are 2,073,600 pixels on the display. Thus, this monitor is allowed to have 4 permanently luminous or black pixels or total 10 defective subpixels.

Can pixel error be fixed?

Black pixel errors, so-called dead pixels cannot be repaired. Often, however, the pixel errors occur in the subpixel (one color is not doing). Then there is the possibility to revive these subpixels. Error pixels can be found by using different colors full-area on your screen.

Repair the „stucked“ pixel with a screen massage

If the pixel still does not react, a massage may help miracles.

1. Take a cotton swab (Q-Tip) or a microfiber cloth.
2. Wipe the screen with little pressure - from left to right and from bottom to top.
3. Repeat this process several times. If this method does not succeed, the pixel is probably really defective.

Error class ISO 9341-307	Old error class ISO 13406-2	Error type I Constant shining pixel	Error type 2 Constant black pixel	Error type 3 one defect sub pixel , constant shining	Error type 3 one defect sub pixel , constant black
0	I	0	0	0	0
I		1	1	$n \in [0;2]$	
				2-n	$2*n + 1$
II	II	2	2	$n \in [0;5]$	
				5-n	$2*n$
III	III	5	15	up to 50	
IV	IV	50	150	up to 150	

The figures in the table are per million pixels.