Smart Window with transparent TFT Display

Description

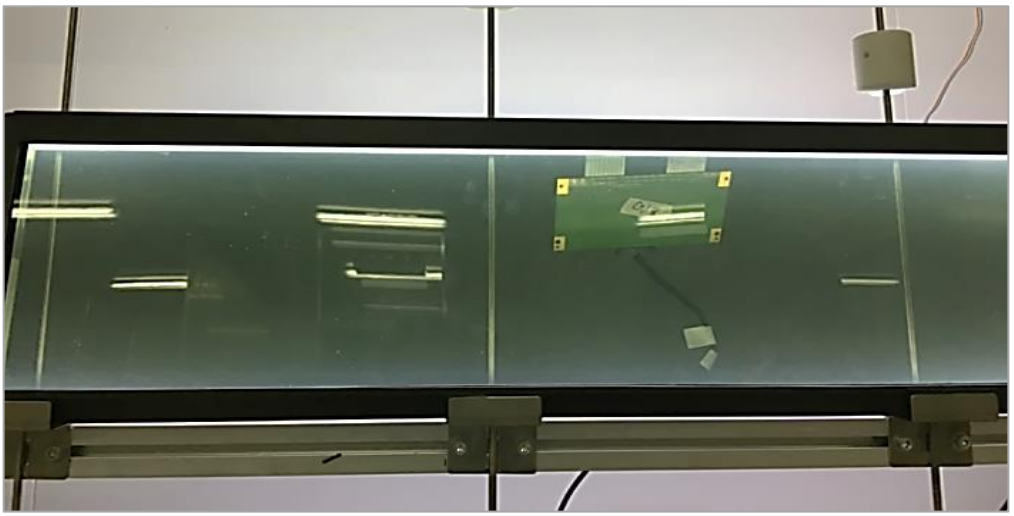
The transparent Smart Window TFT display utilises a TFT without front polariser to create a transparent, coloured display fully capable of video output and with high visual performance.

The transparency allows installing the display at locations for passenger information or advertising, at which a normal display would block necessary line of sight. Examples for such are windows, door frames or stationary glass panels for separating rooms inside a vehicle.

An active reflector panel allows to control the transparency of the display in order to maximise readability and contrast.

Image

Front view – TFT and reflective panel active



Front view – TFT and reflective panel inactive

Specification

Medium	Transparent TFT 42” 1/3 cut with 2x LED Backlight and Smart Glass Window	
Matrix / Colour	1920 x 350 Pixel, 16:3 / 16,7 Million (TFT)	
Viewing Angle	Horizontal 89/89°, Vertical: 89/89°	
Brightness / Contrast	brightness and contrast value depends on the operation mode	
Response time	TFT 10ms	
	pdLC 100ms	
Power Supply	Display controller: 24 V | 36 V | 110 V, EN50155	
	pdLC 24VDC to 60VAC converter	
Power consumption	TFT 25W	
	pdLC 0.5W / 450 cm²	
Temperature	Operation	-10°C to +60°C
	Storage	-20°C to +60°C
Vibration	Train application	EN 50155
EMC/EMI	Train application	EN 50121-3-2
Interfaces	ETH and	
	operation mode control (transparent/non transparent switching)	

Housing	aluminium
	Ingress protection IP54
	safety glass 3mm, AR
	front and backside RAL 9005 black (standard)
*) Size (H x L x T)	210 x 1050 x 80 mm
*) Active Area (H x L)	appr. 1018 x 190 mm (
Weight	appr. 10 kg

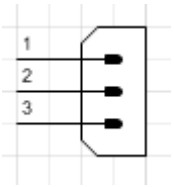
*) for other sizes please see table “Available formats”

Window Functionality

Reflector Panel deactivated
TFT background is transparent

Reflector Panel active
TFT background reflects the LED light to improve the readability

Connectors

Name	Description	Model Type	Pin Num	Pin Definition
ETH	X1	M12 	1	TXP
			2	RXP
			3	TXN
			4	RXN
Power	X3	? 	1	DC24V+
			2	n.c.
			3	DC24V-

Note:

Other interfaces are used by ANNAX staff for maintenance.

Available standard sizes

Type	Active Display Area	Aspect Ratio	Resolution
22in 1/3 cut	476.8 x 89,3 mm²	16 : 3	1920 x 360 px
22in 1/2 cut	476.8 x 134 mm²	16 : 4,5	1920 x 540 px
22in uncut	476.8 x 268 mm²	16 : 9	1920 x 1080 px
32 in 1/3 cut	697.6 x 130 mm²	16 : 3	1920 x 360 px
32in 1/2 cut	697.6 x 200 mm²	16 : 4,5	1920 x 540 px
32in 2/3 cut	697.6 x 260 mm²	4 : 3	1920 x 720 px
32in uncut	697.6 x 400 mm²	16 :9	1920 x 1080 px
42 in 1/3 cut	930.2 x 170 mm²	16 : 3	1920 x 360 px
42 in 1/2 cut	930.2 x 280 mm²	16 : 4,5	1920 x 540 px
42in uncut	930.2 x 560 mm²	16 : 9	1920 x 1080 px
46in 1/3 cut	1018 x 190 mm²	16 : 3	1920 x 360 px
46in 1/2 cut	1018 x 280 mm²	16 : 4,5	1920 x 540 px
46in uncut	1018 x 560 mm²	16:9	1920 x 1080 px

All of these displays can be combined in order to maximise the active display area in limited installation spaces – very tall, slim or very slim, tall designs are thus possible in areas within public transport vehicles where a regular TFT display would not fit.

ANNAX develops and manufactures housings specific to each customer and application, in order to mount and maintain one display or a multiple display combination safely. The ruggedized displays fulfil all requirements for railway application as described in international standards like EN 50155.