

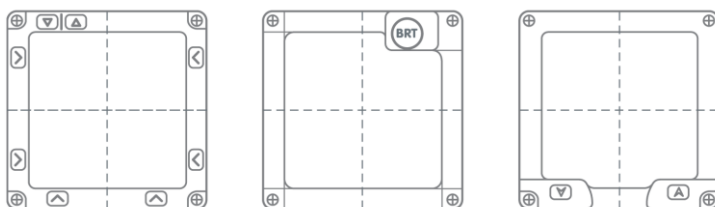
Threat warning indicator (TWI)



Meggitt Avionics threat warning indicator (TWI) is a direct form, fit and function swap-out for in-service cathode ray tube (CRT) based instruments.

The different interface options are compatible with most electronic warfare systems (EWS). Where traditional CRT TWIs are often limited to monochrome symbology, Meggitt's TWI has full multi-colour capability. This gives greater flexibility when defining the optimum pilot vehicle interface (PVI). The TWI can be installed in any part of the cockpit of fighters, helicopters or transporters.

Example bezel configurations are shown below:



Key features

- Complex threat symbols can be designed by the customer, delivering operational flexibility and security benefits
- Custom-generated symbols can be downloaded into the TWI's threat library
- Configurable bezel options are available allowing the TWI to fit into various avionics architectures for new and retrofit aircraft – multiple push buttons, rotary knob, or light sensors
- High resolution (300 x 300) 'RGB Stripe' AMLCD glass and backlight system
- Wide or narrow viewing angle – fully anti-aliased
- Coloured or monochrome symbology
- Multiple threats displayed simultaneously
- Symbol download option for customer defined, designed and downloaded threat libraries, enabling classified threat information to be managed by the operator and rapid updates without withdrawal from service
- Compact – requiring only 5.5" (139.7 mm) behind the panel
- Lightweight – less than 2.2 lbs (1 kg)
- Mounting by bolt installation or standard 3ATI panel clamp
- All solid state design requiring only 18 W max
- Passively cooled, low power, low temperature design

Demonstrating the latest multi-function display technology, TWI is a single line replaceable unit comprising of digital interfaces, operator controls and display processor. It is NVIS B compatible, high resolution and colour active matrix liquid crystal display (AMLCD).

TWI delivers improved reliability compared to CRT instruments. Many CRT displays have been in-service for as long as 20 years and the actual MTBFs achieved are often well below the original design requirement; reported to be as low as 100 hrs.

Used in semi-intelligent repeater applications, where threat assimilation and processing is carried out within the aircraft's onboard EWS. All graphics and symbol generation is completed within the TWI.

Threat symbols are displayed on a configurable radial display showing the threat type, distance and vector. Multiple threat symbols, associated attribute information, jammer and deselect symbols can be displayed simultaneously in real time.

The TWI can be used to present information textually and graphically, relating to both EW equipment (jammer, radar warning receiver (RWR), countermeasures, etc) and threat status. This status data is displayed as directed by the EWS.

Meggitt provides a PC based symbol generation toolkit. To maintain high integrity, the unit's operational flight program (OFP) is not affected by changes to the threat symbology library.

Applications Military aircraft fixed or rotary wing with a suitable threat detection system

Ideal for

Fixed Wing

Rotary Wing

Military



Specifications

Size:	Display 3ATI x 5.56 inches (141.22 mm) long excluding mating connector	
Weight:	Max 2.2 lbs (1 kg)	
Power:	28 VDC, 18 W max	
Communications:	RS-422 ARINC-429 (BITMAP symbol download) MIL-STD-1553B RT or BC MDC-A-3818 BM	
Mounting:	Standard 3ATI instrument panel clamp or bolt mounting	
Display	Active area	2.4 x 2.4 inches (61 x 61 mm)
	Resolution	300 x 300 pixels
Narrow viewing angle OR	Range	+/-20° horizontal, -10°/+30° vertical
	Luminance control range	0.05-200 fL
Wide viewing angle	Range	+/-45° horizontal, -10°/+30° vertical
	Luminance control range	0.05-300 fL
Environmental	Operating temperature	-40° C to +70°C
	Storage temperature	-55° C to +95°C
Standards	Hardware	RTCA/DO-160D
		MIL-STD-810E
		MIL-STD-461
	Software	DO-178B Level E
NVIS compatibility	MIL-L-85762A, MIL-STD-3009 Class B or Class A	

Key benefits

- Lifecycle cost reduction can be achieved through significantly reducing unscheduled removals and spare holding levels
- More informative display
- Fully sunlight readable (up to 300fl)
- Exceptional sunlight readability
- Meggitt's TWI delivers reliable performance over 10,500 hrs MTBF in an aircraft inhabited fighter (AIF) environment
- Lighter, shorter, optically superior and less power consuming than CRTs
- Display area is available in all four corners of the unit, unlike many in-service circular CRTs
- NVIS compatible
- Reduced repair time compared to CRTs
- Extensive IBIT reduces maintenance time and NFFs
- Choice of panel install location
- TWI can interface with EW, radar and aircraft self-protection systems in an array of data formats including MIL-STD-1553B, RS422, MDC-A-3818 and ARINC-429

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