



## HUD 100 HEAD UP DISPLAY

With more than 40 years experience in the field of military aircraft displays, SELEX Galileo is among the leading manufacturers of cockpit displays and graphics on-board generators for military aircraft and trainers.

With the HUD 100 SELEX Galileo offers a state-of-the-art dual refractive combined Head-Up Display which displays a remotely generated video source in cursive, raster or cursive on raster mode.

Light weight and high integrability makes it an ideal solution for aircraft upgrading. Together with the open architecture Mission Computer Symbol Generator, the system provides powerful performance for a broad range of missions.

The HUD 100 leverages the experience of the Company in the development of optical displays supplied for the Tornado multi role combat aircraft and the AMX fighter. Selected for the upgrade of various platforms, HUD 100 is part of the MCS (Mission Core System) developed for the Macchi new generation M346 advanced trainer.

The MCS is an integrated avionic system with an open architecture Mission Computer. MCS also includes SMD 55 smart multifunction displays.

The HUD 100 implements a special mechanical interface to host most of the HUD TV sensors available on the market.

### KEY FEATURES

- Raster, Cursive and Cursive on Raster presentations
- High accuracy symbology
- High resolution
- High brightness
- High Total Field Of View (TFOV)
- Integrated Up Front Control Panel
- P53 phosphor CRT
- Electronic Stand-by Sight
- High Reliability
- Self Test and BIT
- NVG Compatible

## HUD-100 Head Up Display



### TECHNICAL SPECIFICATIONS

#### HUD-100

##### Physical Characteristics

Dimensions	450L x 170W x 393H (mm) including combiners and UFCP)
Weight	Max 14,0 Kg
Cooling System	Natural convection only
UFCP Controls	<ul style="list-style-type: none"> <li>• 48 momentary pushbuttons Rotary controls are available for: <ul style="list-style-type: none"> <li>• UFCP display brightness</li> <li>• HUD cursive brightness</li> <li>• HUD raster brightness</li> <li>• HUD raster contrast</li> </ul> </li> <li>• One lever switch for activation of SBS symbol</li> <li>• One lever switch for HUD on/off control</li> </ul>
UFCP Display	80 characters led dot matrix display arranged as four rows, twenty columns

##### Display Characteristics

Display Type	Dual Refractive Combiner
Exit Pupil	140 mm
TFOV	25 circular
Combiner displacement error	$< \pm 0,1$ mrad TFOV
Combiner distortion error	$< \pm 0,2$ mrad TFOV
Accuracy	$< 0,3$ mrad - centre $< 1,3$ mrad - $0 \div 5$ circular $< 3,0$ mrad - $5 \div 10$ circular
Parallax Vertical	$< 0,5$ mrad - $0 \div 8$ circular $< 0,7$ mrad - $8 \div 12$ circular
Parallax Horizontal	$< 0,5$ mrad - $0 \div 12$ circular
NVIS Compatibility	Type II, class B, MIL-L-85762A
Brightness	$0 \div 6000$ cd/m <sup>2</sup> Cursive $0 \div 300$ cd/m <sup>2</sup> Raster
Writing Speed	(@ 6000 cd/m <sup>2</sup> ) 50 mm/ms
Contrast	(@ 100000 lux) $> 1,2:1$

##### Electrical Interface

Raster Video Input	One monochrome video signal 50/60 Hz
Cursive Video Input	X, Y deflections and bright up control
System Communications	<ul style="list-style-type: none"> <li>• One dual redundant 1553B RT interface</li> <li>• One RS422 serial link</li> </ul>
Power	Two separate power 28VDC aircraft according to MIL-STD-704E. 5VDC, 1A max, lighting power for UFCP backlight.
Power Consumption	140W max

##### Environmental Characteristics

Temperature	$-40$ °C, $+70$ °C - MIL-STD-810E (Operating) $-55$ °C, $+90$ °C - MIL-STD-810E (Storage)
Vibration	MIL-STD-810E, Method 514.4, Procedure I. Operative $0.033$ g <sup>2</sup> /Hz. Endurance $0.051$ g <sup>2</sup> /Hz
Altitude	operating on continuous duty from 107.9 kPa at sea level to 14.7 kPa approximating an altitude of 45.000 ft
Humidity	As per MIL-STD-810E, Method 507.3 Procedure II o III
Shock	As per MIL-STD-810, Method 516.4 Procedures I, and V
EMI/EMC	As per MIL-STD-461D / MIL-STD-462D
Reliability	$> 3300$ hrs

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