SELEX GALILEO

A Finmeccanica Company

MINI COLIBRI
DAY-NIGHT FIRE CONTROL SYSTEM

Mini Colibrì is an indirect view electro-optical FCS for use in short to medium range applications. It is capable of target engagement under all weather conditions during both day and night. Target engagement is carried out remotely from within the turret.

It can be used as Aiming and/or Fire Control System for both short and medium-range applications (e.g. small to medium size weapon systems, operations in an urban environment, in reconnaissance vehicles and mortars operating in direct fire mode).

The Mini Colibrì offers the following functionality:

- Daylight observation and firing, by means TV camera with zoom and optionally by a TV camera with Narrow Field of View
- Night-time observation and firing, by use of the Uncooled IR sensor
- Range measurement, by means of LRF
- Ballistic reticule control, and emergency reticules
- Indirect observation of the outside scenario via the System Control Unit located inside the turret.

Sensor Head

KEY FEATURES

The IR and TV CCD channels together provide an "all-weather" capability.
During target detection or engagement the operator can select the best type of view based on the environmental conditions for both air and ground targets.
The optional tracker function integrated into the Mini Colibrì FCS can operate both types of view (IR and TV CCD).
The excellent day/night vision capability is essential when operating in specific environmental conditions, for both air and ground targets.

COMPOSITION

Mini Colibri is made up 3 Line Replaceable Units. A Sensor Head, a System Display Panel and an Interconnection Cable.

Sensor Head configuration

- IR uncooled sensor able to operate in total absence of light and in the presence of smoke or artificial fog
- Eye-Safe Laser Range Finder
- TV Camera Assembly, with zoom
- Sensor Processing Boards
- TV Camera Assembly, with Narrow FOV (Option)
- Digital Compass (Option).

This equipment outputs the target range data acquired by the LRF and images acquired either, by the IR or by the TV camera, to be displayed on the System Display Panel.

System Display Panel

This is the system console, displaying images and data coming from the sensors integrated in the Sensor Head. By means of standard pop-up menus, it enables easy management of the different operating states of the equipment, the interfaces with the weapon platform.

It includes a computation module able to carry out the Fire Control System computations, i.e. to find the most appropriate ballistic solution for the assigned firing table at the measured or estimated distance to the target.

The System Display Panel autonomously manages the aiming reticules, driving them to reflect the appropriate ballistic solution.

Display Panel

TECHNICAL DESCRIPTION

IR Camera	
Spectral band	From 8 to 12 μm wavelength
Detector	uncooled sensor (320 × 240 pixels)
Video output	CCIR-625 lines / 50 Hz
FOV	4,6°x3,4°

TV Camera	
Sensor	¼ Super HAD
Picture elements	795 x 576 pixels
CCD sensitivity	0.5 lux colour
Output	PAL
FOV	From: 2.4° to: 46° Optical Zoom

TV Camera Narrow FOV (Option)	
Sensor	¼ Super HAD
Picture elements	752 x 585 pixels
CCD sensitivity	5 lux colour
Output	PAL
FOV	4.6°x 3.4°

Laser Range Finder	
Wavelength	1.57 μm (eye-safe)
Pulse Rate	10 Hz
Range	> 4000 m
TX Beam Divergence	2 mrad
RX Field of view	3 mrad

Digital Compass (Optional)	
Azimuth accuracy	0.5°
Elevation Range	± 45°
Elevation Accuracy	0.20°
Bank Range	± 45°
Bank Accuracy	0.20°

Sensor Head	
Size (L x H x W mm)	285 x 175 x 235
Weight (std) approx	6.5 kg

System Display Panel	
Size (L x H x W mm)	270 x 200 x 70
Weight (std) approx	3.5 Kg

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