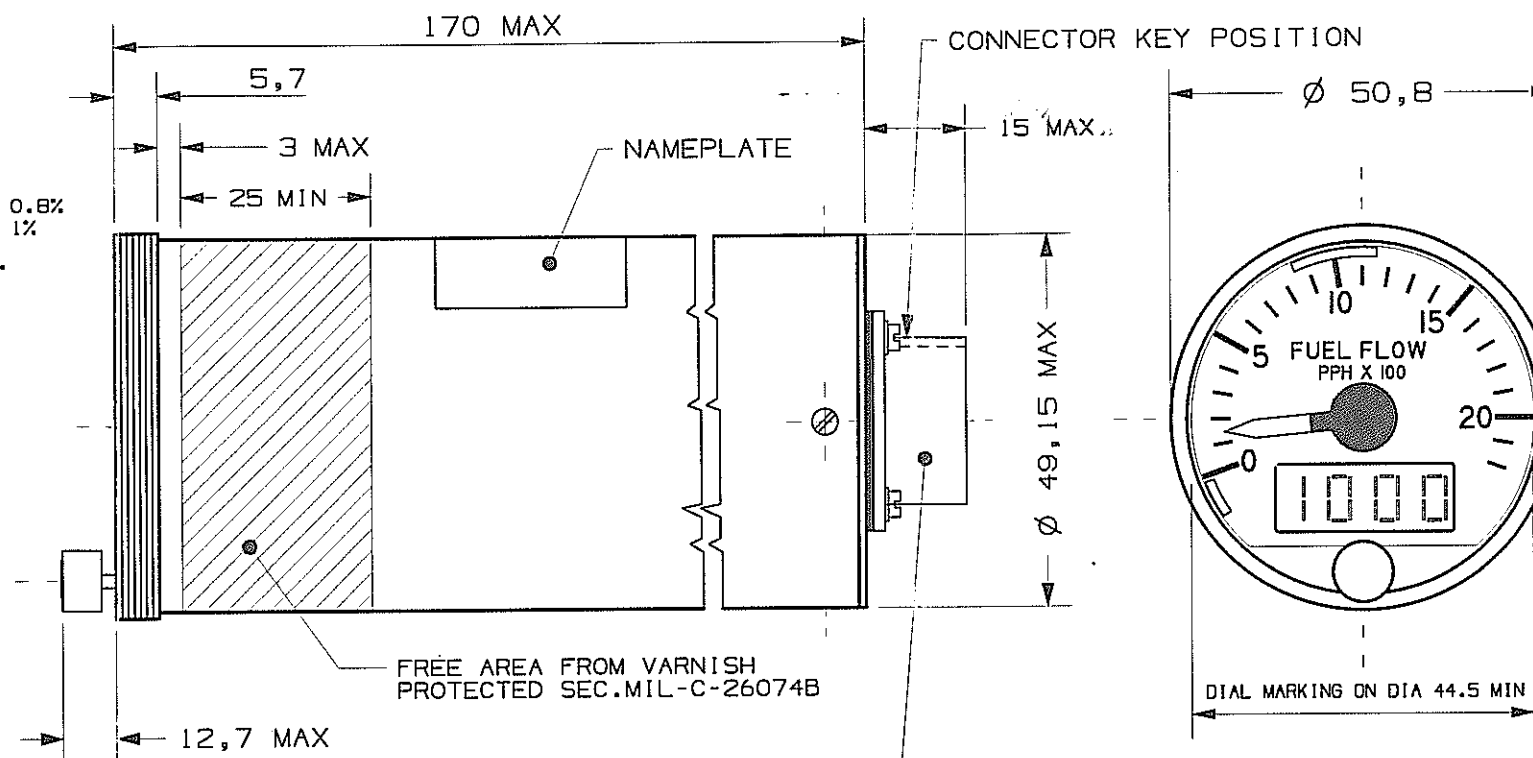


# TECHNICAL REQUIREMENTS

- 1) TYPE : SERVO OPERATING AND 4 DIGIT INCANDESCENT DISPLAY
- 2) RANGE : ANALOGUE FROM 0 TO 2200 PPH (SCALE 220 DEGREES)  
: DIGITAL, UP TO 9990 LBS FUEL USED OR UP TO 2350 PPH FUEL FLOW RATE
- 3) ACCURACY ANALOGUE (% F.S.) : AT AMBIENT TEMPERATURE ± 0,5% FROM 200 TO 1000PPH, ELSEWHERE 0,8%  
: AT EXTREME TEMPERATURE ± 0,7% FROM 200 TO 1000PPH, ELSEWHERE 1%
- 4) ACCURACY DIGITAL (% F.S.) : AT AMBIENT TEMPERATURE ± 0,41%, AT EXTREME TEMPERATURE ± 0,5%.
- 5) INPUT IMPEDANCE : 5 KOHM MINIMUM.
- 6) SIGNAL SOURCE : PULSE, VOLTAGE FROM 0,3 TO 3Vpp (FROM ELDEC P/N 9-127-27)
- 7) CALIBRATION : 40 PPH/mSEC (DELAY OF IMPELLER SIGNAL REFERED TO DRUM SIGNAL)
- 8) POWER SUPPLY : 28 VDC (FROM 12 TO 32 VDC), 6W MAX.
- 9) POSITION ERROR : /
- 10) FRICTION ERROR : /
- 11) LIGHTING : WHITE PER MIL-L-27160; POWER SUPPLY 5 VDC - 2.5W MAX.
- 12) CASE : 2" ROUND CASE PER MS33639. PAINTED, DULL BLACK  
COLOR N° 37038 PER FED-STD-595A.  
: ENVIRONMENTAL SEALING ("O"RING)  
: COLOR PER FED-STD-595A.  
BACKGROUND: BLACK N.37038.  
MARKING: WHITE No 37875.  
CHARACTERS: MS33558 NUMERALS: HEIGHT 3.3 mm  
FUEL FLOW: HEIGHT 2,4 mm  
PPH X 100 HEIGHT: 1.8 mm
- 13) SEALING : ENVIRONMENTAL SEALING ("O"RING)
- 14) DIAL : COLOR PER FED-STD-595A.  
BACKGROUND: BLACK N.37038.  
MARKING: WHITE No 37875.  
CHARACTERS: MS33558 NUMERALS: HEIGHT 3.3 mm  
FUEL FLOW: HEIGHT 2,4 mm  
PPH X 100 HEIGHT: 1.8 mm  
MARKINGS: MAJOR= 5.0 x 0.7 mm  
MINOR= 2.5 x 0.4 mm  
RANGE MARKING: BLU ARC FROM -150 TO -20 PPH AND 850 TO 1150 PPH, COLOR N° 35177
- 15) VISIBILITY ANGLE : 30 DEGREES MINIMUM.
- 16) POINTER : WHITE, COLOR No 37875 PER FED-STD-595A.
- 17) NAMEPLATE : MINIMUM INFORMATION ARE:  
NOMENCLATURE, MANUFACTURER P/N, SERIAL NUMBER,  
MFG DATE, MANUFACTURER NAME AND CODE.
- 18) GLASS : ANTIREFLECTIVE PER MIL-C-14808.
- 19) OPER. TEMP. RANGE : FROM -30° C TO +70° C  
FROM -45° C TO -30° C (ACCURACY CANNOT BE ENSURED)
- 20) STORAGE TEMPERATURE : FROM -55° C TO +85° C
- 21) WEIGHT : 0,5 KG MAX
- 22) GENERAL REQUIREMENTS : INSULATION RESISTANCE, 20 MEGAOHMS MIN AT 250 VDC  
: POWER OFF: POINTER BELOW MINIMUM MARK (BLU ARC)
- 23) ENVIRONMENTAL CONDITIONS : ACCORDING TO DO160B CATEGORIES: TEMPERATURE -D1; ALTITUDE FROM -1200 TO 51000 FT;  
TEMPERATURE VARIATION -C; HUMIDITY -A; VIBRATION -J;  
SHOCK -OPERATIONAL; MAGNETIC EFFECT -Z; POWER INPUT -Z;  
VOLTAGE SPIKE -A; AUDIO FREQUENCY CONDUCTED -Z; EMC -Z.
- 24) DIGITAL DISPLAY : UP-DATE TIME (FUEL FLOW MODE) 1.1 SEC MAX FOR "E" (ERROR) > 2PPH, ELSEWHERE 5 SEC.  
- SEVEN SEGMENTS CHARACTER TYPE - DIGIT HEIGHT 5.7 mm  
- COLOR: BLU-WHITE  
- BRIGHTNESS COORDINATE WITH DIAL LIGHTING VOLTAGE, DISPLAY IS FULL BRIGHT AT 0 TO 1.15 ± 0.1 VDC, INCREASE FROM MINIMUM BRIGHTNESS AT 1.15 ± 0.1 VDC TO HALF BRIGHT AT 5 VDC
- 25) ADDITIONAL REQUIREMENTS : - PULLING THE KNOB RESETS THE MASS FUEL USED.  
- PUSHING THE KNOB THE DIGITAL DISPLAY SHOWS THE FUEL FLOW RATE FOR APPROXIMATELY 30 SECONDS, AFTER THIS TIME THE DISPLAY RETURN TO SHOWS THE MASS (POUNDS) OF FUEL USED. NO SELF TEST IS PERMITTED.  
- SELF TEST (SHORT CIRCUIT BETWEEN PIN R AND S) CAUSES THE POINTER TO GO AT 1000 ± 100 PPH AND THE DIGITAL DISPLAY TO SHOW "8.8.8.8".  
- OUTPUT SIGNALS:  
- AUX +5.1V REF OUT (PIN N AND P): VOLTAGE 5.1 ± 0.1VDC  
OUTPUT RESISTANCE: 5K ± 1.5% OHMS.  
- AUX DC RATE OUTPUT (PIN D AND E): VOLTAGE 0VDC (0 PPH) TO 5VDC (2200 PPH),  
ACCURACY ± 1.5% OF F.S MAX;  
OUTPUT RESISTANCE: 5K ± 1.5% OHMS.  
- AUX FUEL USED OUTPUT (PIN F): OUTPUT PULSE (1 ± 1V TO 12 ± 2V, TIME 2 SEC TYP.)  
WHEN ADDITIONAL 10 POUNDS HAS BEEN USED.  
OUTPUT RESISTANCE: 10.4K ± 20% OHMS.  
- AUX RATE PULSE OUTPUT (PIN G): OUTPUT PULSE (12 ± 2V TO 1 ± 1V, TIME AS DIFFERENCE BETWEEN DRUM AND IMPELLER SIGNAL) PROPORTIONAL TO FUEL FLOW.  
OUTPUT RESISTANCE: 10.4K ± 20% OHMS.
- 26) MTBF : -15000 HOURS MINIMUM



CONNECTOR MS3112E14-19P OR EQUIVALENT TO BE MATED WITH MS3126F14-19S OR EQUIVALENT

## CONNECTOR PINS

A	DRUM SIGNAL	N	AUX +5.1V REF OUTPUT HI
C	IMPELLER SIGNAL	P	AUX +5.1V REF OUTPUT LO
B	COMMON SIGNALS	D	AUX DC RATE OUTPUT HI
L	+ 28 VDC INPUT	E	AUX DC RATE OUTPUT LO
M	28 VDC RETURN	R	SELF TEST HI
J	5V LIGHTING HI	S	SELF TEST LO
K	5V LIGHTING LO	T	SCALE SELECT (NOT USED)
H	CASE GND	U	SPARE
F	AUX FUEL USED OUTPUT	V	SPARE
G	AUX RATE PULSE OUTPUT		

DIMENSIONS ARE IN mm

DISEGN.	QUESTO DISEGNO/SPECIFICA RILASCIATO DALLA FAREM S.R.L. E' STRETTAMENTE CONFIDENZIALE, NON PUO' ESSERE RIPRODOTTO O DIVULGATO IN ALCUN MODO SENZA L'AUTORIZZAZIONE SCRITTA DELLA DITTA.			
ZANABONI				
CONTROLL.	TOLLERANZA SULLE MISURE ± 0,1 - SUGLI ANGOLI 1/2 GRADO - SEGNI DI LAVORAZIONE  DOVE NON INDICATO DIVERSAMENTE.			
DATA	MATERIALE			
20-06-05	/			
SCALA	FINITURA	1	20-06-05	5202 ZANABONI
1:1	/	0	24-05-05	-----
Q.TA'	<b>FAREM S.R.L.</b>			
/	DENOMINAZIONE	N°	DATA	MODIF. DIS. CONTR.
PESO	FUEL FLOW/FUEL USED INDICATOR	DISEGNO N° 16DM08A1908		
/		ORIGINE		