



## TDC

TRACKING DOWN-CONVERTER FOR  
TELEMETRY, TRACKING AND COMMAND  
(TT&C) AND EARTH OBSERVATION

- AUTO-CALIBRATION
- INTERNAL SYNTHESIZER
- LOW GAIN / PHASE SHIFT
- STATUS MONITORS & SUMMARY ALARM
- RS-422 OR ETHERNET M & C



# TDC

TRACKING DOWN-CONVERTER FOR TELEMETRY, TRACKING & COMMAND (TT&C) AND EARTH OBSERVATION

## INPUT

- Freq. band- See ordering information scheme
- Level from -100dBm to -30dBm
- Noise figure  $\leq 12$ dB
- Connector SMA female, 2.9mm(K) in the Ka Band2 version

## OUTPUT

- Freq (Fo) 70 Mhz
- Pout @ 1dB compression  $\geq 5$ dBm
- Connector SMA female, N in outdoor version

## TRANSFER

- Conversion gain 25dB  $\pm 5$ dB
- Image rejection  $> 60$ dB
- Isolation between channels  $> 60$ dB

## FREQUENCY REFERENCE

- Frequency 5 and 10 Mhz
- Connector BNC female, SMA in outdoor version

## LOCAL OSCILLATOR

- Step size 1Khz
- Phase Noise  
 @100Hz: -68dBc/Hz  
 @ 1KHz: -80dBc/Hz  
 @ 10KHz: -88dBc/Hz

## POWER SUPPLY

- Voltage 115 / 240 Vac  $\pm 10$  %
- Frequency 47 to 63 Hz
- Consumption 50VA typ

## AUTO CALIBRATION

The Auto-calibration process is periodically performed for compensation of the gain and the phase offset between channels

## MONITORING & CONTROL

- Interfaces RS422
- Ethernet via the CTR-70



Outdoor package

## RELIABILITY

- MTBF 50 000 hours
- MTTR 1h with an equipment spare

## MECHANICAL CHARACTERISTICS

### INDOOR

- Drawer 19" x 2 U x 460 mm
- Weight 12 kg

### OUTDOOR

- Drawer 400 x 400 x 150 mm
- Weight 15 kg

## ENVIRONMENTAL CONDITIONS

### INDOOR

- Operating 10°C to 40°C
- Storage -30°C to +70°C
- Humidity 95% @ 35°C

### OUTDOOR

- Operating -20°C to 50°C
- Storage -30°C to +70°C
- Humidity 100% in operating
- Waterproofness IP65

### Ordering information scheme

Example: TDC E - Ka1 In	
<b>PRODUCT TYPE</b>	<b>PACKAGE</b>
TDC with autocal	In= indoor Out= outdoor
<b>AUTOLOCAL VERSION</b>	<b>FREQUENCY BAND</b>
B = 2 channels ( $\Sigma$ and one $\Delta$ )	C1= 3,4 to 4,2 Ghz
E = 3 channels (2 $\Sigma$ and one $\Delta$ )	C2= 4,5 to 4,8 Ghz
F = 3 channels ( $\Sigma$ and 2 $\Delta$ )	S = 2,2 to 2,3 Ghz
	X1= 7.25-7.75 Ghz
	X2= 7.90-8.50 Ghz
	Ku = 10,70 to 12,75 Ghz
	Ka1= 17,70 to 21,20 Ghz
	Ka2= 25,50 to 27,00 Ghz



www.ecagroup.com

ECA GROUP AEROSPACE DIVISION  
 ZAC Saint Martin du Touch, 6 impasse Alice Guy,  
 31300 Toulouse - France  
 Phone: +33 5 62 11 17 17 - Fax: +33 5 62 11 17 49  
 E-mail: eca-aerodivision@ecagroup.com