Trans-Cal Industries, Inc.
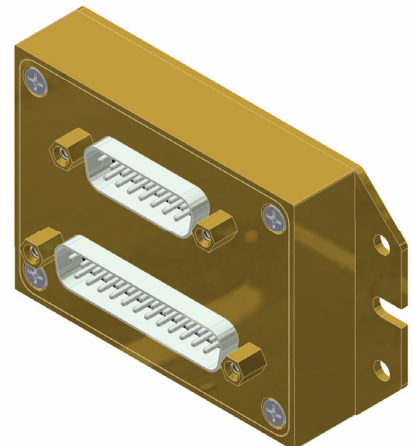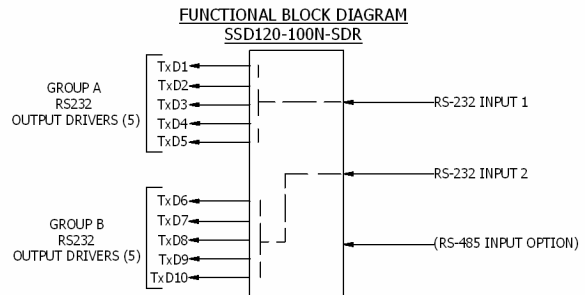## *Model SSD120-100N-SDR*
Serial Data Repeater

Drive up to Ten RS-232 Devices with a Single Input!

Designed to provide a fan-out of up to ten RS-232 compliant outputs from a single RS-232 input, the Model SSD120-100N-SDR is an all solid-state Serial Data Repeater providing a simple and robust means of transmitting serial data to multiple aircraft systems in a small package.

RS232 has become a popular format for transmitting serial data within the aircraft; but RS-232 is limited to one receiver per driver. The SSD120-100N-SDR is designed to fill the need for additional data distribution in the RS-232 format.
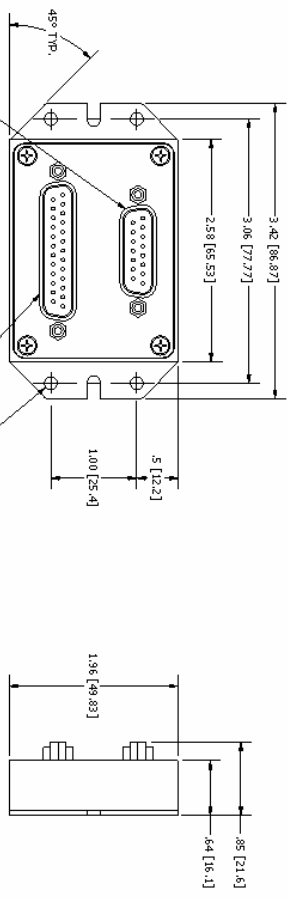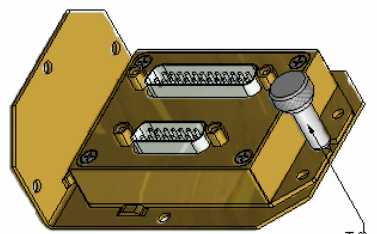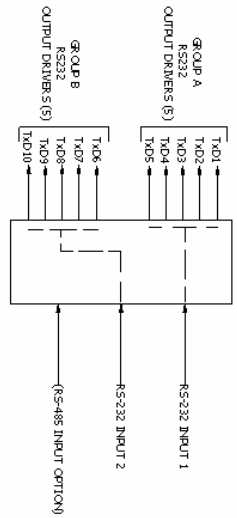
FUNCTIONAL BLOCK DIAGRAM
SSD120-100N-SDR

GROUP A
RS232
OUTPUT DRIVERS (5)

TxD1
TxD2
TxD3
TxD4
TxD5

RS-232 INPUT 1

RS-232 INPUT 2

GROUP B
RS232
OUTPUT DRIVERS (5)

TxD6
TxD7
TxD8
TxD9
TxD10

(RS-485 INPUT OPTION)

Featuring:

- Up to two RS-232 compliant data inputs and/or one RS485 input
- A fan-out of up to ten RS232 compliant output ports
- RS-232 Ports may be installer configured to transmit as one group of ten or two groups of five
- FAA TSO-C88a and EASA ETSO-C88a Approved
- Tested and Conforming to MIL-STD-704E and RTCA DO-160E
- Power, ground and data I/O are provided on an industry standard 25-pin D-Subminiature connector, while data distribution is controlled by jumpers on the 15 pin D-Subminiature connector.
- Operating Voltage +10 to +33Vdc
- Operating Current: 20mA (one output) / 60mA (ten outputs)
- Operating Temperature Range: -40° to +70°C
- Operating Altitude Range: -1200 to +100,000 feet
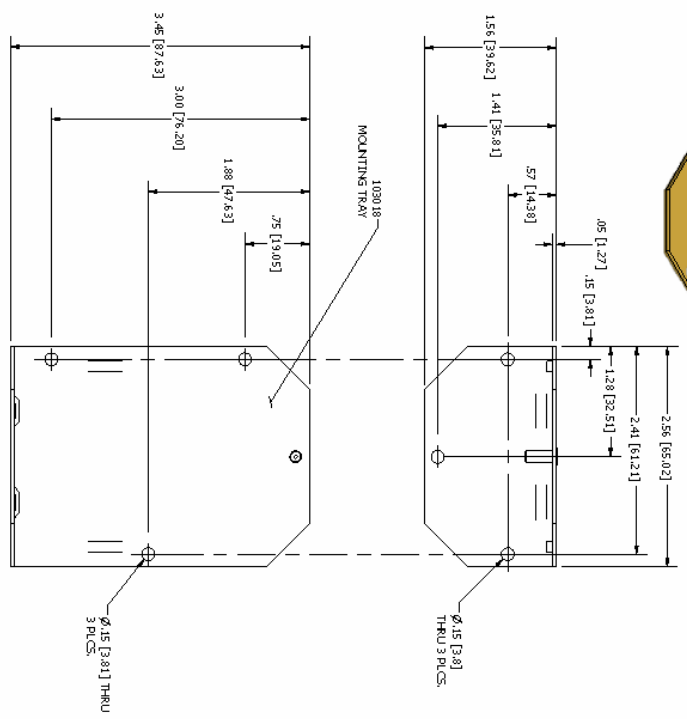- Weight: 3 oz. (Mounting tray and knob adds 1 oz.)

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF TRANS-CAL INDUSTRIES, INC. ANY REPRODUCTION, USE OR DISCLOSURE OF THIS DOCUMENT WITHOUT THE WRITTEN PERMISSION OF TRANS-CAL INDUSTRIES, INC. IS EXPRESSLY PROHIBITED.

D4-15P DATA DISTRIBUTION

PIN	FUNCTION
1	RxD1 OUT
2	RxD1 OUT
3	RxD2 OUT
4	RxD2 OUT
5	GROUP A INPUT
6	GROUP A INPUT
7	GROUP B INPUT
8	GROUP B INPUT
9	RS485 INPUT TxA(-)
10	RS485 INPUT TxB(+)
11	RS485 OUT
12	RS485 OUT
13	SPARE
14	SPARE
15	DATA COMMON

D8-25P SERIAL DATA CONNECTOR

PIN	FUNCTION	PIN	FUNCTION
1	+Vdc POWER	14	TxD5 GROUP A
2	DATA COMMON	15	DATA COMMON
3	RxD1 RS232 INPUT	16	TxD6 GROUP B
4	RxD2 RS232 INPUT	17	DATA COMMON
5	DATA COMMON	18	TxD7 GROUP B
6	TxD1 GROUP A	19	DATA COMMON
7	DATA COMMON	20	TxD8 GROUP B
8	TxD2 GROUP A	21	DATA COMMON
9	DATA COMMON	22	TxD9 GROUP B
10	TxD3 GROUP A	23	DATA COMMON
11	DATA COMMON	24	TxD10 GROUP B
12	TxD4 GROUP A	25	CIRCUIT GROUND
13	DATA COMMON	–	–

FUNCTIONAL BLOCK DIAGRAM
SSD120-100N-SDR

GROUP A
RS232
OUTPUT DRIVERS (5)

GROUP B
RS232
OUTPUT DRIVERS (5)

TxD1
TxD2
TxD3
TxD4
TxD5
TxD6
TxD7
TxD8
TxD9
TxD10

RS-232 INPUT 1
RS-232 INPUT 2
(RS-485 INPUT OPTION)

45° TYP.

3.42 [86.87]
3.06 [77.77]
2.58 [65.53]

1.00 [25.4]
.5 [12.2]

Ø.15 [3.8] THRU
4X

1.96 [49.83]
.85 [21.6]
.64 [16.1]

3.45 [87.63]
3.00 [76.20]
1.88 [47.63]
.75 [19.05]

103018
MOUNTING TRAY

1.56 [39.62]
1.41 [35.81]
.57 [14.38]
.05 [1.27]
.15 [3.81]
1.28 [32.51]
2.41 [61.21]
2.56 [65.02]

Ø.15 [3.81] THRU
3 PLCS.

Ø.15 [3.81] THRU
3 PLCS.

881023-2
KNOB

NOTES:
1. ALL GROUNDS ON THE SERIAL DATA PORT ARE INTERNALLY CONNECTED TO GROUND.
2. APPROVED UNDER FAA TSO-C88A AND EASA ETSO-C88A.
3. OPERATING ALTITUDE RANGE -1100 TO +100,000 FEET.
4. OPERATING TEMPERATURE RANGE -40° TO +70°C.

TOP ASSY NUMBER	DRAWN	H. Smith	1/9/2009
103001	CHECKED	M. Remenih	2/3/2009
	QA	J. FERRERO	10/17/2007
	MFG	C. Herrera	2/6/2009
	APPROVED	J. Ferrero	2/2/2009

TOLERANCES:
UNLESS OTHERWISE NOTED.
Decimals:
.XX ±.03
.XXX ±.010
Angles ±1°0'

METRIC [SI] EQUIVALENTS
BASED ON 1"=25.4MM.

THIRD ANGLE PROJECTION

Trans-Cal Industries, Inc.
Van Nuys, CA 91406

TITLE
Outline Drawing, SSD120-100N-SDR
Serial Data Repeater

SIZE C
DO NOT SCALE DRAWING

DWG NO Outline SSD120-100N-SDR REV A

SCALE 1:1   UNITS: INCH [MM]   SHEET 1 OF 1