



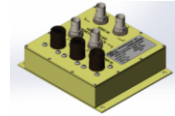
16333-B Raymer Street  
Van Nuys, CA 91406

[www.eoninstrumentation.com](http://www.eoninstrumentation.com)  
ISO9001:2015/AS9100D #C2015-02333  
818-781-2185

3800 Oceanic Drive, #112  
Oceanside, CA 92056

**Product Data Sheet**  
(06/05/2020)

**High Definition Video Matrix  
Switcher/Selectors**



VMS-22 / VMS-24

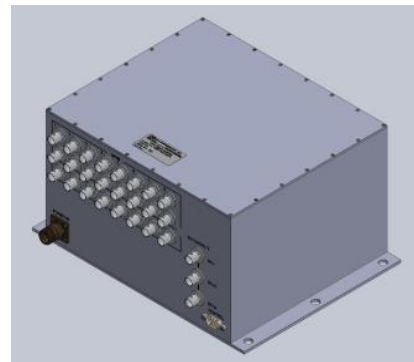


VSA-103D



Selector

Example Model Numbers:	P/N:
VMS-22 (2 in 2 out)	25000-300
VMS-24 (2 in 4 out)	25100-300
VSA-103D (6 in 6 out)	16600-300
Video Selector Switch	12933-300
VMS -2020-3SP4 (20 in 20 out with 3 programmable video configuration cards)	24000-300



VMS-2020-3SP\$

**General**

Eon provides existing or customized Switcher/Selectors that process HD-SDI, DVI-D, HDMI, and DisplayPort. A corresponding analog family exists as well for (10hz – 30Mhz) video in fixed or switchable configurations. Please contact Eon’s website for information and engineering staff about rugged military video products including switcher/selectors, converters, cameras, monitors and recorders. Eon’s additional products include interference blankers, audio distribution systems, rugged power supplies, and system engineering programs.

**Generic Description**

The units have a variable number of inputs and outputs. 3G+ HD-SDI is the most common format. Each output is controlled by a video selector switch that determines which input is being sent through to that output. The switch matrix can also be computer controlled. All units support 270Mbps, 1483/1485Mbps, and 2967/2970Mbps or automatic re-clocking rates. The input power is 18 – 36 VDC. Input and output BNC impedance is 75 ohms. Video returns are common to chassis ground. Different input and output impedances are available upon request, and can be integral with chassis ground. All units are qualified to MilSpec EMI, Environmental and Power requirements.

Eon is able to quickly customize units to unique requirements. One example is the VMS-2020-3SP4. This unit employs a 20 in x 20 out switcher and up to 3 internal programmable monitor configuration cards that allow the user to configure groups of 4 switcher outputs internally to a programmable video output providing for each monitor picture-in-picture, picture overlay etc.

***Configuration:***

See the attached Outline and Mounting Drawings for sample configurations.

***Generic Specifications:***

*Signal Input/Output:* HD-SDI Single Ended

*Gain:* Unity

*Finish:* (except for screws, base and connectors): CARC White Paint

*Input Voltage:* 18-36 VDC

*Power Consumption:* 6.0 – 10.0 Watts depending on channels in operation

*Power Dissipation:* 1.2 – 2.0 Watts depending on channels in operation

*Weight:* 2.0 lbs

*Finish (except for screws and connectors):* CARC White Paint, Black Lettering

***Qualification (by test or similarity, data available upon request):***

*Power:* Mil-Std-704D, 1275

*Environmental:* Mil-Std-810G

*Temperature:*

Storage: -55 to +85C

Functional: -40 to +55C

Short Time Operating: +70C

*Altitude:* Non-Pressurized Area, Cl 1 per MIL-E-5400T (0-50,000Ft)

*Humidity:* DO-160C, Cat A

MIL-STD-810E Method 507.3, Procedure III (Aggravated), 10ea 24 hr cycles

*Salt Fog:* MIL-STD-810E Method 509.3, Procedure I

*Sand and Dust:* MIL-STD-810E Method 510.3, Procedure I

*Acceleration:* Operational: +/-6.5G's, Non-operational: +/-9 G's

*Endurance Sine on Random Vibration:*

MIL-STD-810F Method 514.5 Category 13 and IF-3AA0-08002B.

*Rapid Decompression:* MIL-STD-810E Method 500.3 para II-3.3 Procedure III

*Functional and Crash Safety Shock Testing:*

DO-160C Section 7 Impulse, 6 G's Operational, 15 G's Crash Safety.

*EMI:* Mil-Std-461

Conducted Emissions, CE101

Conducted Emissions, CE102

Radiated Emissions, RE101

Radiated Emissions, RE102

Conducted Susceptibility, CS101

Conducted Susceptibility, CS114

RF Conducted Susceptibility, RFCS

Radiated Susceptibility, RS103

RF Radiated Susceptibility

Electrostatic Discharge, ESD

Lightning Induced Transient Susceptibility, LITS

***MTBF:*** 88,000Hrs

6

5

4

3

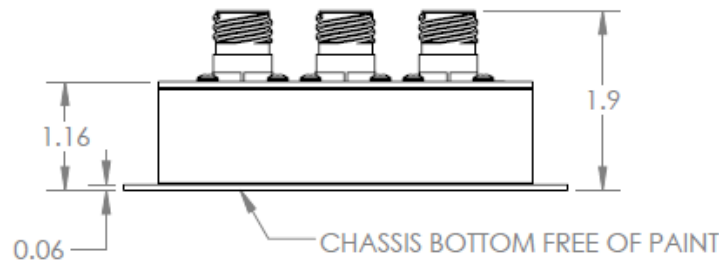
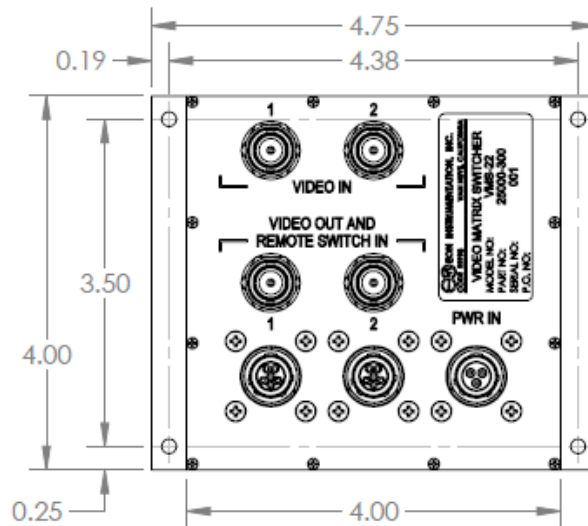
2

DWG. NO.  
25000-300REV  
TBDSHEET  
1

1

## REVISIONS

REV.	ECO	DESCRIPTION	DATE
TBD	EC250-00	INITIAL RELEASE	TBD



## NOTES:

1. INPUT POWER: 28 VDC, 3 WATTS NOMINAL
2. HOUSING: CHEM-FILM FINISH PER MIL-C-5541 CLASS 3
3. FINISH: OPTIONAL CARC WHITE PAINT EXCEPT FOR SCREWS AND CHASSIS BOTTOM. BLK LETTERING ON BOTH PAINTED AND UNPAINTED CONFIGURATIONS.
4. WEIGHT: <1 LB NOMINAL

CAD-MAINTAINED. CHANGES SHALL BE INCORPORATED VIA DESIGN ACTIVITY.

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES [mm]

TOLERANCES: ANGLES:  
 .XXX":  $\pm 0.005"$  [ $\pm 0.12\text{mm}$ ]  $\pm 1.0^\circ$   
 .XX":  $\pm 0.02"$  [ $\pm 0.5\text{mm}$ ]  
 .X":  $\pm 0.1"$  [ $\pm 2.5\text{mm}$ ]

MATERIAL: SEE NOTES

FINISH: SEE NOTES

INTERPRET DRAWING IAW ASME Y14.100

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APPROVALS: DATE:  
 DRAWN: NCF 06/24/2020  
 CHECKED: JW 06/24/2020  
 ENG APPR.:



EON Instrumentation, Inc.  
 15531 Cabrito Road • Van Nuys, CA 91406  
 Tel: +1 (818) 781-2185 • CAGE Code: 22198

TITLE: VMS-22  
OUTLINE & MOUNTING

SIZE	PART NO.	DWG. NO.	REV
A	25000-300	25000-300	TBD

SCALE: 1:2 SHEET 1 OF 1

## J1 PWR IN P/N D38999/20WA98PN

PIN #	SIGNAL
A	+28 VDC IN
B	+28 VDC RTN
C	CHASSIS GND

## SDI VIDEO INPUTS

BNC #	SIGNAL
CENTER	VIDEO IN
SHIELD	CHASSIS GND

## SDI VIDEO OUTPUTS

BNC #	SIGNAL
CENTER	VIDEO OUT
SHIELD	CHASSIS GND

 REMOTE VIDEO SELECT SW 1-2  
 D38999/20WA35SN  
 OCTAL INPUT

POS	SWITCH CONNECTION	VIDEO SELECTION
1	OPEN	INPUT #1
2	1 TO 5	INPUT #2

 DWG. NO.  
 25000-300  
 REV  
 TBD  
 SHEET  
 1

6

5

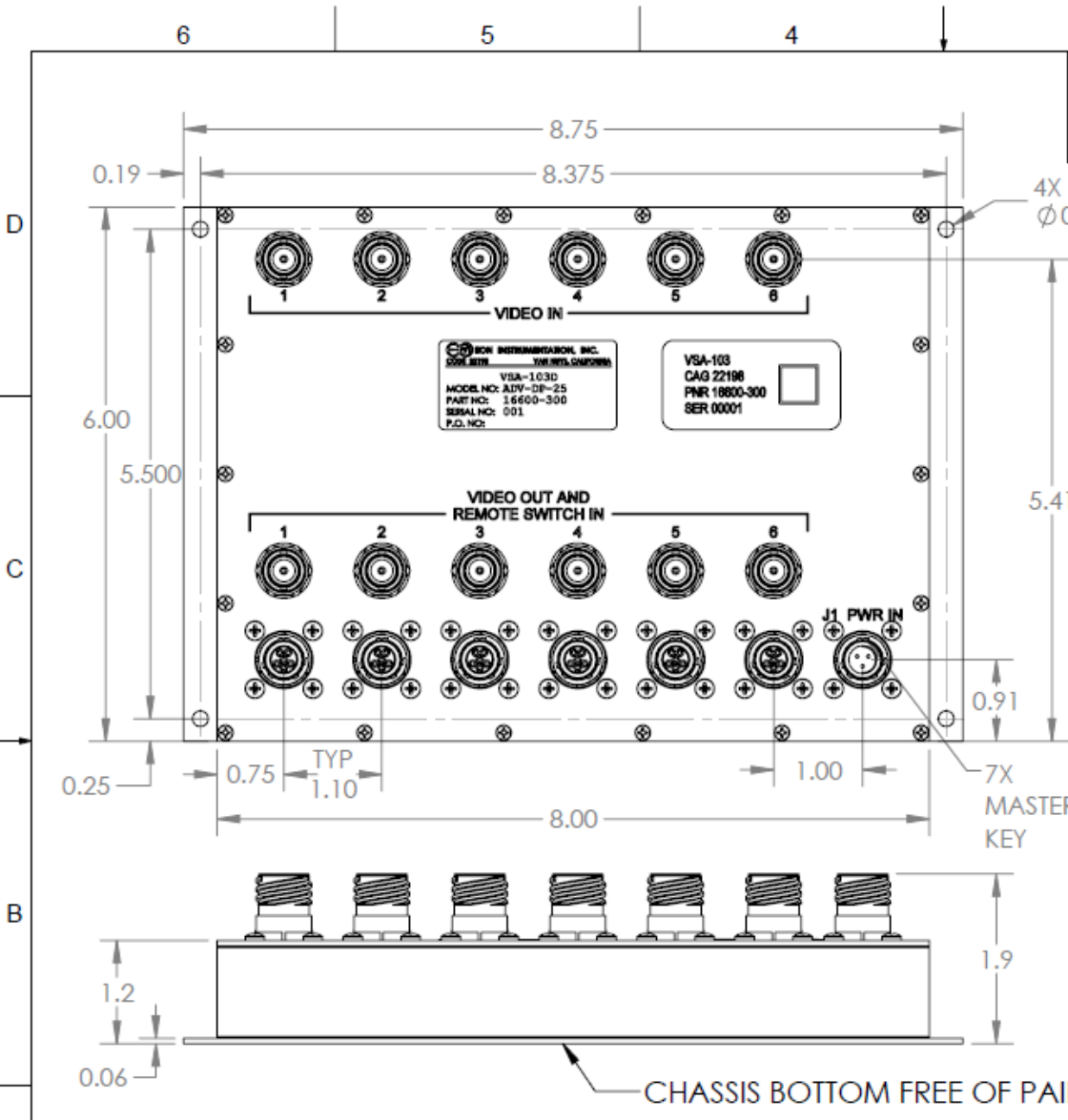
4

3

2

1

REVISIONS			
REV.	ECO	DESCRIPTION	DATE
IR	EC166-00	INITIAL RELEASE	IR



J1 PWR IN P/N D38999/20WA98PN

PIN #	SIGNAL
A	+28 VDC IN
B	+28 VDC RTN
C	CHASSIS GND

BNC VIDEO INPUTS

BNC #	SIGNAL
1-6	VIDEO INPUTS

BNC VIDEO OUTPUTS

BNC #	SIGNAL
1-6	VIDEO OUTPUTS

REMOTE VIDEO SELECT SW 1-6  
D38999/20WA35SN  
OCTAL INPUT

PIN #	SIGNAL
1	BCD COMMON
2	BCD 2
3	N/C
4	BCD 4
5	BCD 1
6	N/C

ROTARY SWITCH TRUTH TABLE

SWITCH POS	BCD SHORT TO COMMON		
	1	2	4
1			
2	X		
3		X	
4	X	X	
5			X
6	X		X

CHASSIS BOTTOM FREE OF PAINT

NOTES:

- INPUT POWER: 28VDC, 10W NOMINAL
- HOUSING: 5052-H32, 6061-T6, OR 6063-T5 ALUMINUM WITH CHEM-FILM FINISH PER MIL-C-5541 CLASS 3.
- FINISH: OPTIONAL CARC WHITE PAINT EXCEPT FOR SCREWS AND CHASSIS BOTTOM. BLACK LETTERING ON BOTH PAINTED AND UNPAINTED CONFIGURATIONS.
- WEIGHT: 2.5 LB NOMINAL

CAD-MAINTAINED. CHANGES SHALL BE INCORPORATED VIA DESIGN ACTIVITY.  
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES [mm]  
TOLERANCES: .XXX": ±0.005" [±0.12mm] ANGLES: ±1.0°  
.XX": ±0.02" [±0.5mm]  
.X": ±0.1" [±2.5mm]  
MATERIAL: SEE NOTES  
FINISH: SEE NOTES  
INTERPRET DRAWING IAW ASME Y14.100

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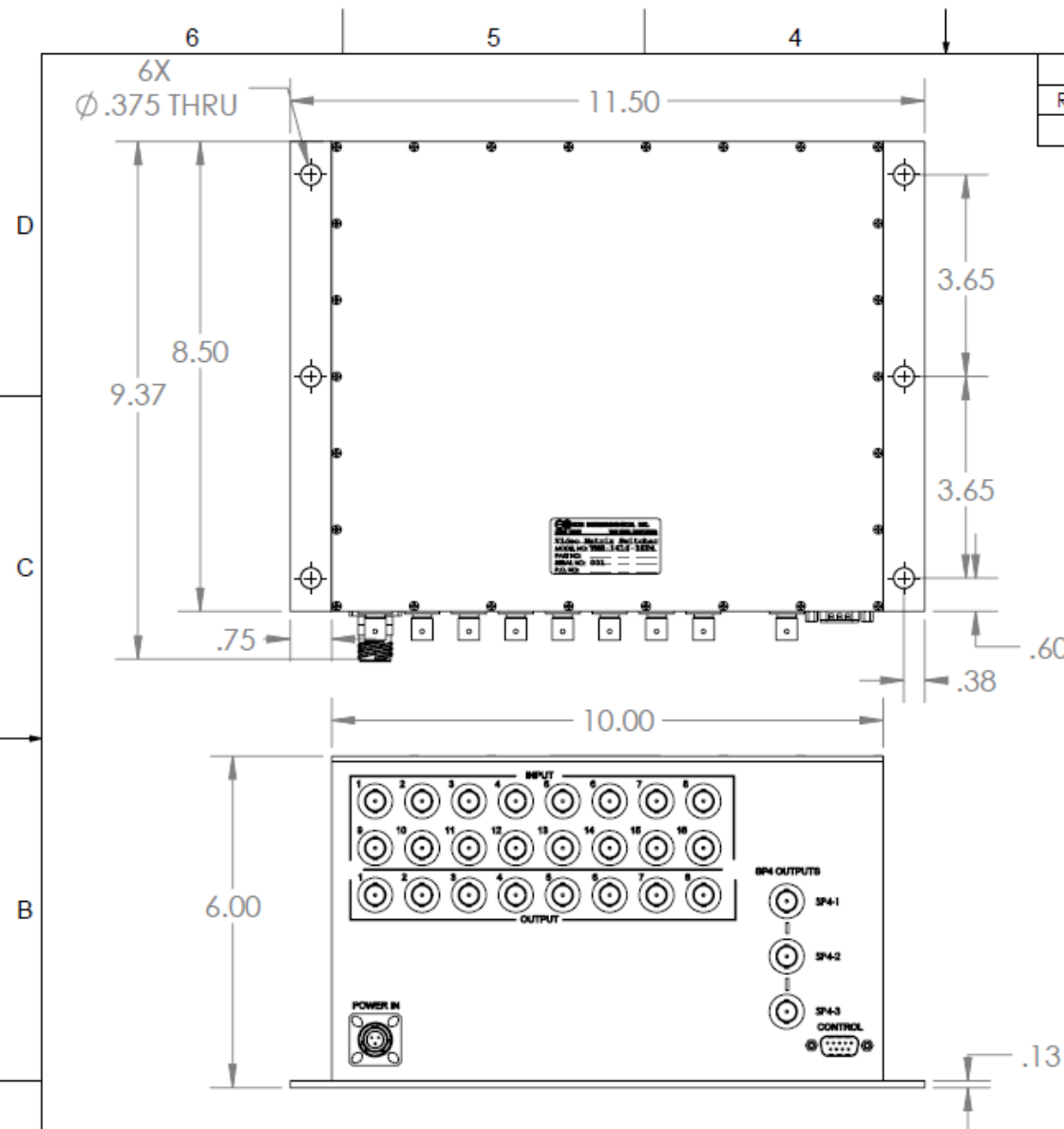
TITLE: VSA-103  
OUTLINE & MOUNTING

SIZE	PART NO.	DWG. NO.	REV
A	16600-300	16600-300	IR

SCALE: 1:2 SHEET 1 OF 1

DWG. NO. 16600-300 REV SHEET 1

REVISIONS			
REV	ECO	DESCRIPTION	DATE
	TBD	INITIAL RELEASE	4/16/2020



**POWER IN**  
P/N D38999/20WA98PN

PIN	SIGNAL
A	+28VDC IN
B	+28VDC OUT
C	CHASSIS GROUND

**INPUT 1-16**  
BNC

PIN	SIGNAL
CENTER	VIDEO IN
SHIELD	CHASSIS GROUND

**OUTPUT 1-8** 9-20 ARE INTERNAL OUTPUTS FOR INPUT TO SP4-1; 2; 3  
BNC

PIN	SIGNAL
CENTER	VIDEO OUT
SHIELD	CHASSIS GROUND

**SP4 OUTPUT 1-3** (EACH SP4 OUTPUT IS COMPRISED OF 4 SELECTED OUTPUTS FROM 9-20)  
BNC

PIN	SIGNAL
CENTER	VIDEO OUT
SHIELD	CHASSIS GROUND

**VIDEO CONTROL**  
DB-9 PIN MALE

PIN	SIGNAL
1, 4, 6-9	SPARE
2	DATA INPUT
3	DATA INPUT
5	SYSTEM GND

**NOTES:**

- INPUT POWER: 28VDC, <TBD>W NOMINAL
- HOUSING: 5052-H32, 6061-T6, OR 6063-T5 ALUMINUM WITH CHEM-FILM FINISH PER MIL-C-5541 CLASS 3.
- FINISH: OPTIONAL FED-STD-595 26307 (EQUIP GRAY) PAINT EXCEPT FOR SCREWS AND CHASSIS BOTTOM. BLACK LETTERING ON BOTH PAINTED AND UNPAINTED CONFIGURATIONS.
- WEIGHT: <TBD> LB NOMINAL

**PRELIMINARY - NOT REVIEWED**

CAD-MAINTAINED. CHANGES SHALL BE INCORPORATED VIA DESIGN ACTIVITY. UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES [mm] TOLERANCES: .XXX": ±0.005" [±0.12mm] ANGLES: ±1.0° .XX": ±0.02" [±0.5mm] .X": ±0.1" [±2.5mm]	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF EON INSTRUMENTATION, INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF EON INSTRUMENTATION, INC. IS PROHIBITED.		EON Instrumentation, Inc. 16333 Raymer St Ste B, Van Nuys, CA Tel: +1 (818) 781-2185 • CAGE Code: 22198	
	MATERIAL: SEE NOTES FINISH: SEE NOTES INTERPRET DRAWING IAW ASME Y14.100	APPROVALS: CA CHECKED: ENG APPR.:	DATE: 04/16/20	TITLE: VMS-1620-3SP4 OUTLINE & MOUNTING
SIZE: A		PART NO.:	DWG. NO.: XXXXX-300	REV: IR
SCALE: 1:4		SHEET 1 OF 1		

DWG. NO. XXXXX-300  
 REV IR  
 SHEET 1