

DAS Components

from

JFW!



JFW Industries

The LTE revolution is underway; and along with it comes the increased demands of MIMO on Distributed Antenna Systems (DAS).

JFW's passive RF components, including attenuators/terminations and power dividers, are designed specifically to meet the requirements of LTE MIMO-DAS deployments and upgrades.

50DR-046 SMA



Data Sheet and Drawing



50DR-055 SMA



Data Sheet and Drawing



50FHA0-030-100-N



Data Sheet and Drawing



50PD-659-SMA



Data Sheet and Drawing



50PD-660-SMA



Data Sheet and Drawing



JFW Industries, Inc.

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E-Mail Sales sales@jfwindustries.com

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SPECIFICATION SHEET
JFW MODEL 50DR-046
DUAL ROTARY ATTENUATOR

JFW Industries, Inc.
 Phone: 317-887-1340
 sales@jfwindustries.com
 www.jfwindustries.com

Frequency Range	DC-2500 MHz
Impedance	50 Ohms nominal
Attenuation Range	0-50 dB in 1 dB steps
VSWR	1.2:1 maximum DC-500 MHz 1.4:1 maximum 500-1000 MHz 1.5:1 maximum 1000-2500 MHz
Insertion Loss	0.5 dB maximum DC-1000 MHz 1.0 dB maximum 1000-2500 MHz
Attenuation Accuracy	± 0.2 dB or 1% DC-500 MHz ± 0.3 dB or 3% 500-1000 MHz ± 0.4 dB or 3% 1000-2500 MHz
RF Input Power	2 Watts average 1000 Watts peak
Direction of Rotation	Attenuation increases in a Clockwise direction
Indexing	30 degrees with stops at Minimum and maximum
RF Connector	BNC, TNC, N or SMA female
Operating Temperature Range	-20°C to +85°C
Physical Size	See outline drawing 092-1513-06 (BNC) 092-5280 (TNC) 092-440-06 (SMA) 092-327-06 (N)

ECR/ECN #	DATE	REV	APPR / DATE	ECR/ECN #	DATE	REV	APPR / DATE
	02/08/1995			17251	05/26/2009	C	TRS 05/26/2009
9999	05/12/2003	A	BAC 02/05/2004				
13697	12/20/2006	B	CLK 12/20/2006				

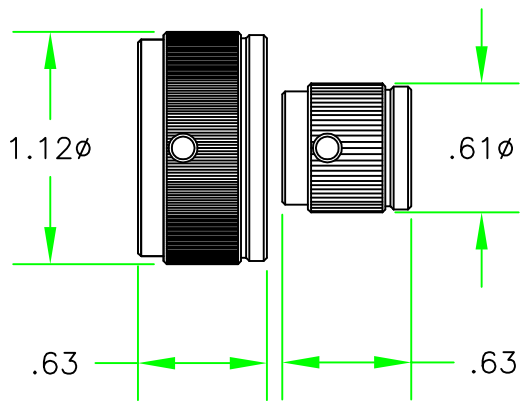
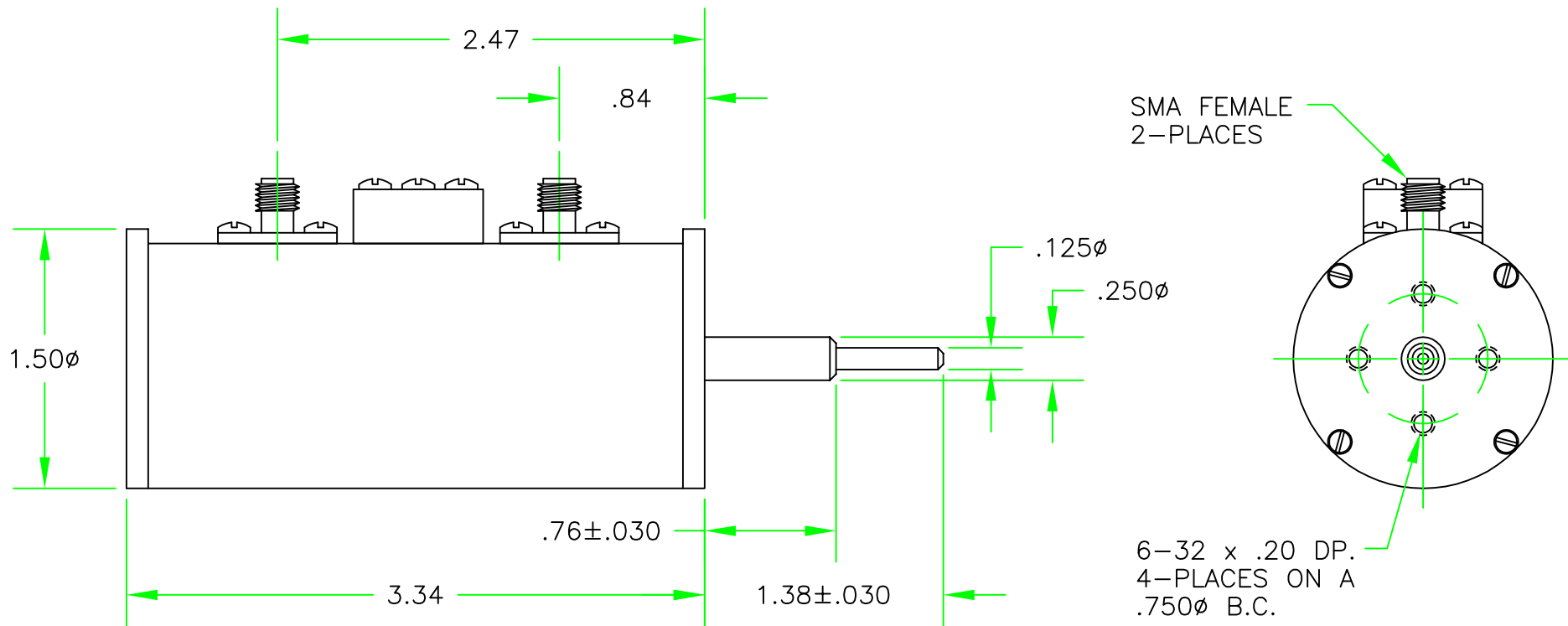
SPECIFICATION SHEET
JFW MODEL 50DR-055
DUAL ROTARY ATTENUATOR

JFW Industries, Inc.
 Phone: 317-887-1340
 sales@jfwindustries.com
 www.jfwindustries.com

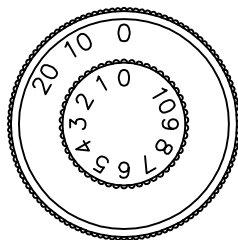
Frequency Range	DC-2000 MHz
Impedance	50 Ohms nominal
Attenuation Range	0-30 dB in 1 dB steps
VSWR	1.3:1 maximum to 1000 MHz 1.5:1 maximum to 2000 MHz
Insertion Loss	0.8 dB maximum
Attenuation Accuracy	± 0.25 dB or 2% DC-1000 MHz ± 0.4 dB or 3% 1000-2000 MHz
RF Input Power	2 Watts average 1000 Watts peak
Direction of Rotation	Attenuation increases in a Clockwise direction
Indexing	30 degrees with stops at Minimum and maximum
RF Connector*	SMA, BNC, TNC, RPT, or N female
Operating Temperature Range	-20°C to +85°C
Physical Size	See outline drawing 092-1748 (SMA) 092-5760 (BNC) 092-6720 (N) 092-6733 (RPT)


* RPT female = Reverse Polarity TNC female
 (female body/male pin)

ECR/ECN #	DATE	REV	APPR / DATE	ECR/ECN #	DATE	REV	APPR / DATE
	11/06/1991			15655	04/09/2008	C	TRS 04/09/2008
2203	10/07/1999	A		19163	09/22/2010	D	TRS 09/22/2010
9999	05/12/2003	B	BAC 02/05/2004	19178	09/28/2010	E	TRS 09/28/2010



KNOB DETAIL



				JFW INDUSTRIES, INC. INDIANAPOLIS, IN		PROPRIETARY INFORMATION	
						ALL SURFACES ARE TO BE FREE OF BURRS, PITS, & SCRATCHES	
REV	ECN	DATE	BY	DRAWN BY	CDJ	DATE	1-24-01
A	6594	1-24-01	CDJ	APP'D BY		SCALE	FULL
B	6750	6-11-01	CDJ	MATERIAL	ALUMINUM ALLOY		
C	6995	1-30-02	CMB	FINISH	CHEMFILM TCP		
D	7049	3-25-02	CMB	DESCRIPTION	50DR-XXX		
E	12635	4-20-06	ETW		0-30dB ROTARY ATTEN.		
							DWG NO.
							092-1748

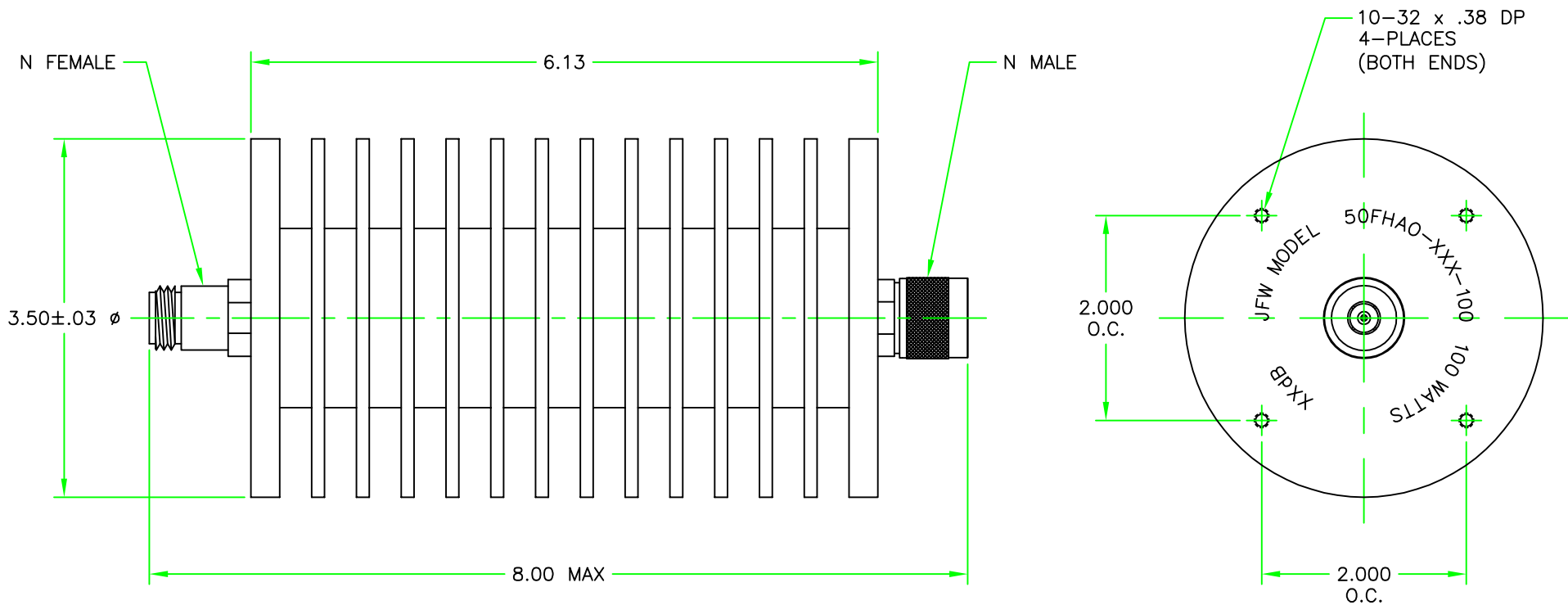
TOLERANCES
FRACTIONAL DIM. \pm 1/64
2 PLACE DECIMAL \pm .010
3 PLACE DECIMAL \pm .005
ANGULAR DIM. \pm 1/2 $^\circ$

SPECIFICATION SHEET
JFW MODEL 50FHAO-XXX-100
FIXED ATTENUATOR


JFW Industries, Inc.
 Phone: 317-887-1340
 sales@jfwindustries.com
 www.jfwindustries.com

Frequency Range	DC-3000 MHz
Impedance	50 Ohms nominal
Attenuation Values	1 thru 50 dB in any 1 dB increment
VSWR	For 1-14 dB: 1.4:1 maximum For 15-50 dB: 1.3:1 maximum
Attenuation Accuracy	± 0.5 dB
RF Input Power	100 Watts average @ +25°C Derate to 50 Watts @ +85°C
Peak Power	1000 Watts (1 microsecond pulse)
RF Connector	N or 7/16
Operating Temperature Range	-55° C to +100° C
Weight	3.5 lbs typical
Physical Size	See outline drawings: 092-3164 (N) 092-6649 (7/16) 092-5774 (7/16 M/N F)

ECR/ECN #	DATE	REV	APPR / DATE	ECR/ECN #	DATE	REV	APPR / DATE
12417	02/10/2006	H	CLK 02/10/2006	18888	07/16/2010	K	SMR 07/16/2010
13795	01/24/2007	I	SMR 01/24/2007	20288	07/01/2011	L	TRS 07/01/2011
15034	12/05/2007	J	SMR 12/05/2007	20523	08/31/2011	M	TRS 08/31/2011



* INSERT NOMINAL ATTEN. i.e. 006 = 6dB

REV	ECN	DATE	BY	APPR		
-	ISSUED	12-27-01	MH	TEZ		
A	14183	5-14-07	BZ	TEZ		
B	15119	1-4-08	BZ	TEZ		
C	20487	8-22-11	JZ	TEZ		
					 JFW INDUSTRIES, INC. www.jfwindustries.com PH: 317-887-1340	
MATERIAL					ALUMINUM ALLOY	PROPRIETARY INFORMATION
FINISH					BLACK ANODIZE	ALL SURFACES ARE TO BE FREE OF BURRS, PITS, & SCRATCHES
MODEL					50FHA0-XXX-100	SCALE FULL
DESCRIPTION					100 WATT FIXED ATTENUATOR	TOLERANCES .XX±.010 .XXX±.005 .XC±.5 DWG # 092-3164

SPECIFICATION SHEET

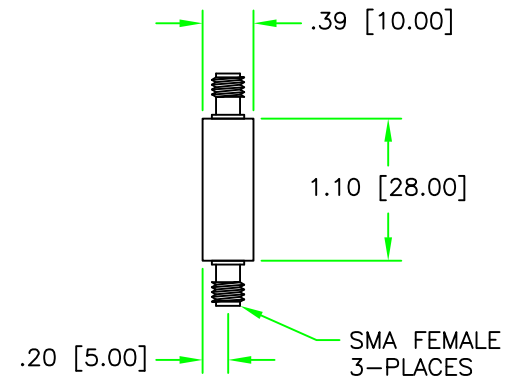
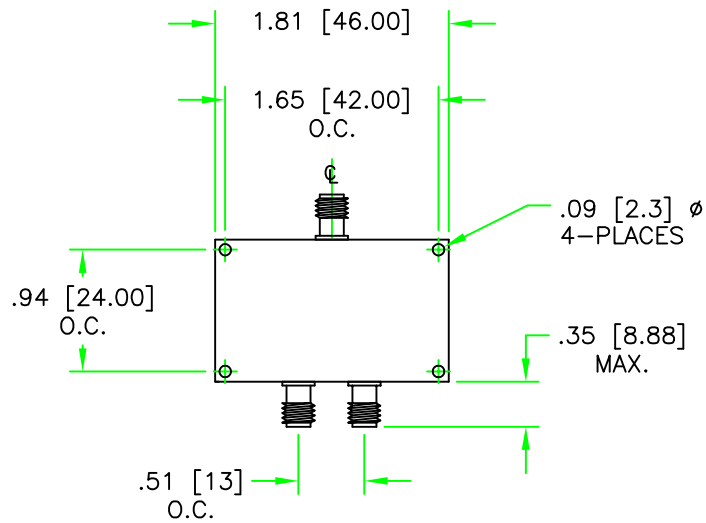
JFW MODEL 50PD-659

2 WAY REACTIVE POWER DIVIDER/COMBINER


JFW Industries, Inc.
Phone: 317-887-1340
sales@jfwindustries.com
www.jfwindustries.com

Frequency Range	698-3000 MHz
Impedance	50 Ohms nominal
VSWR	1.4:1 maximum
Insertion Loss (above 3 dB split)	0.6 dB maximum 0.19 dB typical @ 698 MHz 0.36 dB typical @ 3000 MHz
Amplitude Tracking	± 0.5 dB maximum < 0.1 dB typical @ 3000 MHz
Phase Tracking	± 5° maximum < 1° typical @ 3000 MHz
Isolation	18 dB minimum > 22 dB typical
RF Input Power	5 Watts average (divider port) 0.25 Watts average (combiner ports)
Operating Temperature Range	-40°C to +85°C
RF Connector	SMA female
Physical Size	See outline drawing 092-5726

ECR/ECN #	DATE	REV	APPR / DATE	ECR/ECN #	DATE	REV	APPR / DATE
	02/19/2008		TRS 02/19/2008	19114	09/14/2010	C	TRS 09/14/2010
15828	05/05/2008	A	TRS 05/05/2008	19390	11/16/2010	D	TRS 11/16/2010
15880	05/15/2008	B	TRS 05/15/2008	20510	08/30/2011	E	TRS 08/30/2011



NOTE: DIMENSIONS ARE IN INCHES [MILLIMETERS]

 JFW INDUSTRIES, INC. INDIANAPOLIS, IN							PROPRIETARY INFORMATION	
REV	ECN	DATE	BY	DRAWN BY	B. ZEIHEN	DATE	2-19-08	ALL SURFACES ARE TO BE FREE OF BURRS, PITS, & SCRATCHES
				APP'D BY		SCALE	FULL	TOLERANCES
				MATERIAL	ALUMINUM ALLOY		FRACTIONAL DIM. $\pm 1/64$	
				FINISH	GRAY EPOXY PAINT		2 PLACE DECIMAL $\pm .010$	
				DESCRIPTION	50PD-659: 2 WAY POWER DIVIDER		3 PLACE DECIMAL $\pm .005$	
							ANGULAR DIM. $\pm 1/2^\circ$	
							DWG NO. 092-5726	

SPECIFICATION SHEET

JFW MODEL 50PD-660

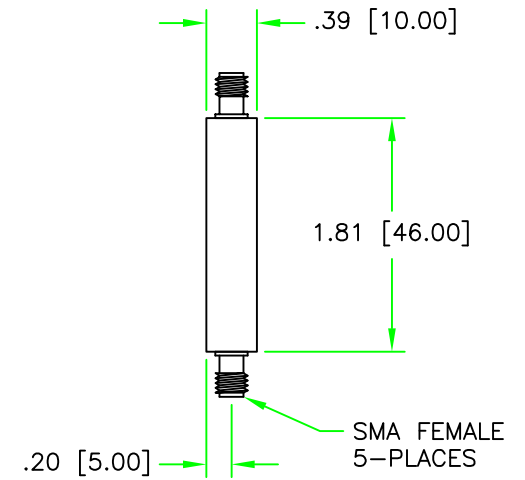
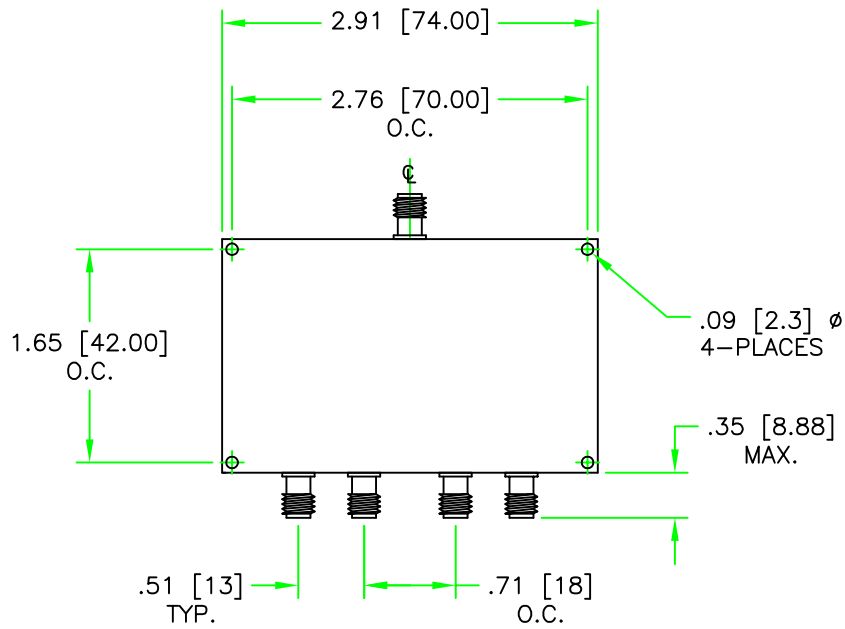
4 WAY REACTIVE POWER DIVIDER/COMBINER

JFW Industries, Inc.
Phone: 317-887-1340
sales@jfwindustries.com
www.jfwindustries.com


Frequency Range	698-3000 MHz
Impedance	50 Ohms nominal
VSWR	1.5:1 maximum
Insertion Loss (above 6 dB split)	1.2 dB maximum 0.21 dB typical @ 698 MHz 0.65 dB typical @ 3000 MHz
Amplitude Tracking	± 0.7 dB maximum < 0.1 dB typical @ 3000 MHz
Phase Tracking	± 8° maximum < 3° typical @ 3000 MHz
Isolation	18 dB minimum > 22 dB typical
RF Input Power*	5 Watts average (divider port) 0.25 Watts average (combiner ports)
Operating Temperature Range	-40°C to +85°C
RF Connector	SMA female
Physical Size	See outline drawing 092-5727

* 10 Watts RF input power when used as a divider with all output ports loaded at < 1.2:1 VSWR.

ECR/ECN #	DATE	REV	APPR / DATE	ECR/ECN #	DATE	REV	APPR / DATE
	02/19/2008		TRS 02/19/2008	19114	09/14/2010	C	TRS 09/14/2010
15828	05/05/2008	A	TRS 05/05/2008	19390	11/16/2010	D	TRS 11/16/2010
15880	05/15/2008	B	TRS 05/15/2008	20510	08/30/2011	E	TRS 08/30/2011



NOTE: DIMENSIONS ARE IN INCHES [MILLIMETERS]

 JFW INDUSTRIES, INC. INDIANAPOLIS, IN							PROPRIETARY INFORMATION	
REV	ECN	DATE	BY	DRAWN BY	B. ZEIHEN	DATE	2-19-08	ALL SURFACES ARE TO BE FREE OF BURRS, PITS, & SCRATCHES
				APP'D BY		SCALE	FULL	TOLERANCES
				MATERIAL	ALUMINUM ALLOY		FRACTIONAL DIM. ± 1/64	
				FINISH	GRAY EPOXY PAINT		2 PLACE DECIMAL ± .010	
				DESCRIPTION	50PD-660: 4 WAY POWER DIVIDER		3 PLACE DECIMAL ± .005	
							ANGULAR DIM. ± 1/2°	
							DWG NO. 092-5727	