REVISIONS							
REV.	DESCRIPTION	DATE	APPROVED				
А	INITIAL RELEASE NPR 9000	93-4-29	RG				

## SALES DRAWING

REV. STATUS OF SHEETS					3	= #==					
REV.	А	А	A	A		Kik			P.O. BOX 4 arbara, CA		122
SHEET	1	2	3	4			Corporation				
REV.	•					TITLE CONTACTOR, SPST-NO,		İ			
SHEET							250	VDC,	90A		
PREP. BY	′	OCAMPO 93-4-21		PD90X SERIES							
СНКD. В	Y 2	2 , Rc	5 <u>0</u>	43 - U	(;)	LD30V SEKIES					
						FSCM. NO.		SHEET	1	OF	<b>1</b> .
ENG. APRVL.		K 1	<u>ુ</u>	93	1-23		18741				<u>т</u>

Contact Arrangement	Physical Data	Units	PD90X				
Dimensions (L - W - H)	Contact Arrangement						
Weight							
Environmental Data		in.					
Shock		OZ.	16				
Vibration, 55 - 2000 Hz.   G   5   Alltitude, maximum   ft.   15,000	Environmental Data						
Alltitude, maximum	Shock, 11 ms, 1/2 sine		25				
Departing Ambient Temp. Range (4)   deg. C   -35 to +65	Vibration, 55 - 2000 Hz.						
Electrical Data	Altitude, maximum	ft.					
Rated Operating Voltage	Operating Ambient Temp. Range (4)	deg. C	-35 to +65				
Coad Polarity	Electrical Data			<ul> <li>Subject to</li> </ul>	Change -		
Date   Coli	Rated Operating Voltage	Vdc	250				
Rated Resistive Load   Cycles   10,000   Resistive Load Life   Cycles   10,000   Rated Overload Current   Amps   350   MSec   Cycles   10   Cycles   Cycles   10   Cycles   10   Cycles   Cycles   Cycles   10   Cycles   Cycles   Cycles   10   Cycles   Cycl			Bidirectional	All specifica	tions are		
Rated Overload Current		Amps	90	tested per SAE	ARD50031.		
Rated Overload Current	Resistive Load Life	Cycles	10,000				
Arc Duration, nominal/maximum Overload Life         mSec Cycles         2/30 10           Continuous Current Carry         Amps         90           Contact Resistance, maximum         mOhms         2           Maximum Terminal Temperature         deg. C         200           Insulation Resistance @ 500 Vdc         Megohms         100           Dielectric Withstand Voltage (@ Sea Level)         Vrms         1,800           Coil to Power Terminals         Vrms         2,000           All Other Points         Vrms         2,000           Coil Data         Units         PD90XB57         PD90XB57           Coil Voltage, nominal maximum         Vdc         12.5         28         145           Coil Resistance +/- 10% (3)         Ohms         19         103         1890           Pickup Voltage, maximum         Vdc         9.9         23         99           Cont. Current Test, High Temp & Alt         Vdc         9.5         22         95           High Temperature, Cold Coil         Vdc         8.6         20         86           Room Temperature, Cold Coil         Vdc         6.9         16         69           Dropout Voltage, minimum         Ovc Temperature Range         Vdc         0.65         <		Amps	350				
Overload Life			2/30				
Continuous Current Carry		Cycles	10				
Contact Resistance, maximum   mOhms   2   Maximum Terminal Temperature   deg. C   200     Insulation Resistance @ 500 Vdc   Megohms   100     Dielectric Withstand Voltage (@ Sea Level)   Coil to Power Terminals   Vrms   1,800     All Other Points   Vrms   2,000     Coil Voltage, nominal   Vdc   12   24   125     maximum   Vdc   12.5   28   145     Coil Resistance +/- 10% (3)   Ohms   19   103   1890     Pickup Voltage, maximum   Cont. Current Test, High Temp & Alt   Vdc   9.9   23   99     High Temperature, Hot Coil   Vdc   9.5   22   95     High Temperature, Cold Coil   Vdc   8.6   20   86     Room Temperature, Cold Coil   Vdc   6.9   16   69     Dropout Voltage, minimum   Over Temperature Range   Vdc   0.5   1.0   5.0     At 25C   Vdc   4.3   8.7   45     Contact Bounce, maximum (1)   mSec   8   8   8     Operate Time, maximum (1)   mSec   35   40   35      Trunk							
Maximum Terminal Temperature         deg. C         200           Insulation Resistance @ 500 Vdc         Megohms         100           Dielectric Withstand Voltage (@ Sea Level)         Vrms         1,800           Coil to Power Terminals         Vrms         2,000           All Other Points         Vrms         2,000           Coil Data         Units         PD90XB57         PD90XC57           Coil Voltage, nominal maximum         Vdc         12         24         125           maximum         Vdc         12.5         28         145           Coil Resistance +/- 10% (3)         Ohms         19         103         1890           Pickup Voltage, maximum         Vdc         9.9         23         99           Cont. Current Test, High Temp & Alt         Vdc         9.9         23         99           High Temperature, Hot Coil         Vdc         9.5         22         95           High Temperature, Cold Coil         Vdc         8.6         20         86           Room Temperature, Cold Coil         Vdc         0.5         1.0         5.0           Dropout Voltage, minimum         Vdc         0.65         1.3         6.5           Hold Voltage, minimum         Vdc <td>Contact Resistance, maximum</td> <td>mOhms</td> <td></td> <td></td> <td></td>	Contact Resistance, maximum	mOhms					
Insulation Resistance @ 500 Vdc   Megohms   100	Maximum Terminal Temperature	deg. C					
Dielectric Withstand Voltage (@ Sea Level)   Coil to Power Terminals   All Other Points   Vrms   2,000	Insulation Resistance @ 500 Vdc	Megohms	100				
Coil to Power Terminals	Dielectric Withstand Voltage (@ Sea Level)						
Coil Data         Units         PD90XA57         PD90XB57         PD90XC57           Coil Voltage, nominal maximum         Vdc         12         24         125           Coil Resistance +/- 10% (3)         Ohms         19         103         1890           Pickup Voltage, maximum         Cont. Current Test, High Temp & Alt         Vdc         9.9         23         99           High Temperature, Hot Coil         Vdc         9.5         22         95           High Temperature, Cold Coil         Vdc         8.6         20         86           Room Temperature, Cold Coil         Vdc         6.9         16         69           Dropout Voltage, minimum         Over Temperature Range         Vdc         0.5         1.0         5.0           At 25C         Vdc         0.65         1.3         6.5           Hold Voltage, minimum         Over Temperature Range         Vdc         5         10         52           At 25C         Vdc         4.3         8.7         45           Contact Bounce, maximum (1)         mSec         8         8           Operate Time, maximum (1)         mSec         35         40         35		Vrms					
Coil Voltage, nominal	All Other Points	Vrms					
Coil Resistance +/- 10% (3)         Ohms         19         103         1890           Pickup Voltage, maximum         Cont. Current Test, High Temp & Alt         Vdc         9.9         23         99           High Temperature, Hot Coil         Vdc         9.5         22         95           High Temperature, Cold Coil         Vdc         8.6         20         86           Room Temperature, Cold Coil         Vdc         6.9         16         69           Dropout Voltage, minimum         Over Temperature Range         Vdc         0.5         1.0         5.0           At 25C         Vdc         0.65         1.3         6.5           Hold Voltage, minimum         Over Temperature Range         Vdc         5         10         52           At 25C         Vdc         4.3         8.7         45           Contact Bounce, maximum (1)         mSec         8         8           Operate Time, maximum (1)         mSec         35         40         35	Coil Data	Units	PD90XA57	PD90XB57			
maximum         Vdc         12.5         28         145           Coil Resistance +/- 10% (3)         Ohms         19         103         1890           Pickup Voltage, maximum         Cont. Current Test, High Temp & Alt         Vdc         9.9         23         99           High Temperature, Hot Coil         Vdc         9.5         22         95           High Temperature, Cold Coil         Vdc         8.6         20         86           Room Temperature, Cold Coil         Vdc         6.9         16         69           Dropout Voltage, minimum         Over Temperature Range         Vdc         0.5         1.0         5.0           At 25C         Vdc         0.65         1.3         6.5           Hold Voltage, minimum         Vdc         5         10         52           Over Temperature Range         Vdc         5         10         52           At 25C         Vdc         4.3         8.7         45           Contact Bounce, maximum (1)         mSec         8         8           Operate Time, maximum (1)         mSec         35         40         35	Coil Voltage, nominal						
Pickup Voltage, maximum							
Cont. Current Test, High Temp & Alt         Vdc         9.9         23         99           High Temperature, Hot Coil         Vdc         9.5         22         95           High Temperature, Cold Coil         Vdc         8.6         20         86           Room Temperature, Cold Coil         Vdc         6.9         16         69           Dropout Voltage, minimum         0ver Temperature Range         Vdc         0.5         1.0         5.0           At 25C         Vdc         0.65         1.3         6.5           Hold Voltage, minimum         0ver Temperature Range         Vdc         5         10         52           At 25C         Vdc         4.3         8.7         45           Contact Bounce, maximum (1)         mSec         8         8           Operate Time, maximum (1)         mSec         35         40         35	Coil Resistance +/- 10% (3)	Ohms	19	103	1890		
High Temperature, Hot Coil							
High Temperature, Cold Coil Vdc 8.6 20 86 Room Temperature, Cold Coil Vdc 6.9 16 69  Dropout Voltage, minimum Over Temperature Range Vdc 0.5 1.0 5.0 At 25C Vdc 0.65 1.3 6.5  Hold Voltage, minimum Over Temperature Range Vdc 5 10 52 At 25C Vdc 4.3 8.7 45  Contact Bounce, maximum (1) mSec 8 8 8  Operate Time, maximum (1) mSec 35 40 35							
Room Temperature, Cold Coil   Vdc   6.9   16   69							
Dropout Voltage, minimum							
Over Temperature Range         Vdc         0.5         1.0         5.0           At 25C         Vdc         0.65         1.3         6.5           Hold Voltage, minimum Over Temperature Range         Vdc         5         10         52           At 25C         Vdc         4.3         8.7         45           Contact Bounce, maximum (1)         mSec         8         8           Operate Time, maximum (1)         mSec         35         40         35		Vdc	6.9	16	99		
At 25C         Vdc         0.65         1.3         6.5           Hold Voltage, minimum Over Temperature Range At 25C         Vdc         5         10         52           At 25C         Vdc         4.3         8.7         45           Contact Bounce, maximum (1)         mSec         8         8           Operate Time, maximum (1)         mSec         35         40         35			0.5	4.0	5.0		
Hold Voltage, minimum							
Over Temperature Range         Vdc         5         10         52           At 25C         Vdc         4.3         8.7         45           Contact Bounce, maximum (1)         mSec         8         8           Operate Time, maximum (1)         mSec         35         40         35	At 25C	Vac	0.00	1.3	0.5		
At 25C         Vdc         4.3         8.7         45           Contact Bounce, maximum (1)         mSec         8         8         8           Operate Time, maximum (1)         mSec         35         40         35	Inoid Voitage, minimum	Vdc	5	10	52		
Contact Bounce, maximum (1)         mSec         8         8           Operate Time, maximum (1)         mSec         35         40         35	Over Temperature Kange						
Operate Time, maximum (1) mSec 35 40 35							
Toperate time, maximum (1)	Operate Time maximum (1)						
	Release Time, maximum (1) (2)	mSec	i iŏ				

(1) Operate Time, Release Time, and Contact Bounce are all measured with the relay stabilized at 25 C and operated with nominal coil voltage. Operate Time includes bounce.

- (2) With either no coil suppression or Zener diode suppression > or = 1.5X nominal coil voltage only.
- (3) Coil resistance is measured with the coil stabilized at 25 C.
- (4) For high temperature and altitude conditions, the relay must be mounted on a metal plate maintained at a temperature no greater than 65 C.

#### **DIMENSIONS IN INCHES**

(DIMENSIONS IN PARENTHESES ARE IN MILLIMETERS)

TOLERANCES EXCEPT AS NOTED

 $.xx = \pm .03$ 

 $.xxx = \pm .010$  $x^{\circ} = \pm 2^{\circ}$ DO NOT SCALE DWG.



P.O. BOX 4422 Santa Barbara, CA 93140-4422

### PD90X SERIES

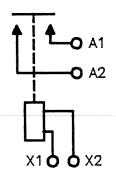
CAGE CODE 18741 **SCALE** 

NONE

SHEET

2

REV. Α



### **SCHEMATIC**

**DIMENSIONS IN INCHES** (DIMENSIONS IN PARENTHESES ARE IN MILLIMETERS)

TOLERANCES EXCEPT AS NOTED

 $.xx = \pm .03$ 

 $.xxx = \pm .010$   $x^{\circ} = \pm .2^{\circ}$ DO NOT SCALE DWG.



P.O. BOX 4422 Santa Barbara, CA 93140-4422

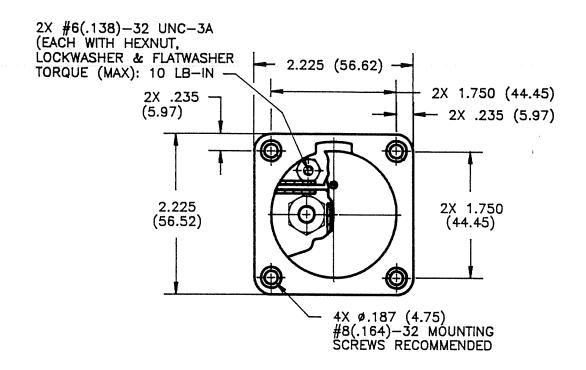
PD90X SERIES

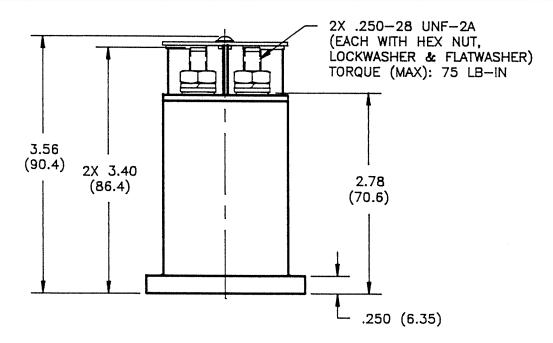
CAGE CODE 18741 SCALE

NONE

SHEET

3





(PART NUMBER, CONTACT RATINGS, COIL VOLTAGE/RESISTANCE AND SCHEMATIC ARE MARKED ON SIDES OF RELAY)

# DIMENSIONS IN INCHES (DIMENSIONS IN PARENTHESES ARE IN MILLIMETERS)

TOLERANCES EXCEPT AS NOTED

$$.xx = \pm .03$$
  
 $.xxx = \pm .010$   
 $x^{\circ} = \pm .2^{\circ}$   
DO NOT SCALE DWG.

# Kilovac®

P.O. BOX 4422 Santa Barbara, CA 93140-4422

#### PD90X SERIES

CAGE CODE 18741 3:4

SHEET

4