## **INDUSTRIAL POWER SUPPLIES**



c3controls' **Industrial Power Supplies** are the clear choice when it comes to providing a regulated power for not only industrial and commercial loads but also residential applications. Designed to fit in panels of almost all sizes, c3 power supplies range from 60 to 480W, and of course, with all the necessary certifications and compliances. Check out all the innovative features these power supplies have to offer!

## DELIVERING THE MOST RELIABLE, UNINTERRUPTED & HIGH QUALITY POWER

V Proven	Our Series IPS Industrial Power Supplies are UL Listed and CE marked to meet global standards requirements and are compliant to the RoHS directives.		
✓ Secure Installation	Quick and simple snap-on installation on a 35mm DIN Rail.		
🗸 Clear Visibility	LED indication allows you to see the availability of the DC power output, making it very helpful in troubleshooting.		
<b>V</b> Environmentally Secure	Designed and tested for ensuring operation in extreme temperatures, to keep your application running.		
✓ Visible Certifications	Product certifications and electrical ratings are clearly marked on the outside of the device for easy reference during installation.		
✓ Limited Lifetime Warranty*	Every product is backed by our limited lifetime warranty— unmatched in the industry—bringing you quality components that perform in the most demanding applications.		
Guaranteed Same-Day Shipping*	Product availability reduces inventory, and improves cash-flow— saving you money. With c3controls any order for standard catalog items received by 6:00pm ET is guaranteed to ship same-day.		
Advantage Pricing	Our approach to product development, manufacturing, and focus on servicing the OEM and Electrical Equipment Builder reduces cost. The result—the best value in the industry.		

\*See c3controls Terms & Conditions



## **UNIQUE FEATURES**

#### Best in class efficiency

• c3controls' Industrial power supplies are designed to deliver the power with up to 93% efficiency!

#### Reliability

 Unmatched protection against short circuit, overload, overvoltage and over temperature, along with Auto-recovery functionality.

### Flexibility

• Adjustable output voltage from 100 to 116%.

#### Easy monitoring

• Power supplies from 240W to 480W come with DC OK Relay Contacts to provide status signals to the monitoring system.

#### Compact

• Ultra-compact design to save valuable panel space.





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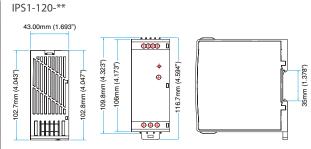
# **INDUSTRIAL POWER SUPPLIES**

## SPECIFICATIONS

Over Temperature main transformer reaches typically 120°C. Turns on only after temperature falls below 90°C typically and AC power is recyc thereafter.   ENVIRONMENT   Operating Temperature -25°C to +70°C; de-rate linearly above 50°C from 100% load 50°C to 50% load at 70°C25°C to 0°C startup is guaranteed v specification deviation (Output ripple can be more than 10% the output voltage)   Storage Temperature °C   Cooling Natural Convection Cooled   Humidity RH 5 to 95 %, Non-condensing   Altitude m 2000			IPS1-120-12	IPS1-120-24	IPS1-120-48					
Nominal DC VoltageV122448Rated CurrentA852.5Current RangeA0 - 80 - 50 - 2.5Rated PowerW96120120Ripple & Noise (Max.) $< 19\%$ of Vout120120Voltage Adjustment RangeV12 to 1424 to 2848 to 56Voltage Tolerance $-11\%$ of Vout100100Line / Load Regulation $\pm 19\%$ 100100Turn On Time $< 1 sec @ 230$ VAC & $< 3 sec @ 115$ VAC, Full loadRise TimeNin Du Time $\geq 60$ ms at 230 VAC & $< 3$ sec @ 115 VAC, Full loadRise TimeKise Time $< 260$ ms at 230 VAC & $< 15$ ms at 115 VAC, Full load100Hold Up Time $\geq 60$ ms at 230 VAC & $< 15$ ms at 115 VAC, Full load100Incurent $< 220$ A $@ 15$ VAC, 15 A $@ 230$ VAC100Incurent $< 22 A @ 115$ VAC, 15 A $@ 230$ VAC100 to 80%A C Current $22.4 A @ 115$ VAC, 15 A $@ 230$ VAC100 to 50%A C Current $< 22 A @ 115$ VAC, 15 A $@ 230$ VAC100 to 50%A C Current $< 24 A @ 105 w of Rated Output Current, Hiccup Type, Auto-recoverVertoad> 110 \% of Rated Output Current, Hiccup Type, Auto-recover typeOvertoad> 100 \% of Rated Output, JOC Turns on only afterteakage Current< 17 \pm 11 31.5 ±161 ±2Overtoad> 100 \% of Rated Output, JOC Turns on only afterteakage Current< 25\% C to +70\%C, de-rate linearly above 50° C from 100% load 50° C to = 50\% form 100% load 50° C to $		UNITS								
Rated CurrentA852.5Current RangeA0-80-50-2.5Rated PowerW96120120Name RongeV12 to 1424 to 2848 to 56Voltage Adjustment RangeV12 to 1424 to 2848 to 56Voltage Tolerance1 %1 %11 %10 motionLine / Load Regulation $- 1 \sec a$ 230 VAC & $> 3 \sec a$ 115 VAC, Full loadHold Up Time $> 60 ms a$ 230 VAC & $> 3 \sec a$ 115 VAC, Full loadHold Up Time $> 60 ms a$ $< 100$ 10 motionINPUT $> 50 / 60$ $> 50 / 60$ 10 motionVoltage RangeVAC $2.2 A \oplus 115$ VAC, 15 A $a \ge 20$ VACInrush Current $< 2.2 A \oplus 15$ VAC, 15 A $a \ge 20$ VACInrush Current $< 448$ Amps; Measured at 264 VAC, 25°C Ambient, Cold StarLeakage Current $< 110 \% 0$ fRated Output Current, Hiccup Type; Auto-recoverOverload $\sim 110 \% 0$ fRated Output Current, Hiccup Type; Auto-recover, the power supplyOverload $\sim 25^{-1}$ to $^{-25^{-1}$ to $^{-25^{-1}$ to $^{-25^{-1}$ to $^{-25^{-1}}$ to $^{-25^{-1}$ to $^{-25^{-1}}$ to $^{-25^{-1}}$ to $^{-25^{-1}}$ to $^{-25^{-1}}$ to $^{-25^{-1}$ to $^{-25^{-1}}$ to $^{-25^{-1}}$ to $^{-25^{-1}$ to $^{-25^{-1}}$ to $^$	OUTPUT			I						
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Current Range     A     0 - 8     0 - 5     0 - 2.5       Rated Power     W     96     120     120       Ripple & Noise (Max.)     C     -1% of Vout     48 to 56       Voltage Tolerance     A     24 to 24     48 to 56       Voltage Tolerance     A     -1 %     100       Line / Load Regulation     A     <1 sec 230 V/C & <3 sec 915 V/C, Full load	5									
Rated Power     W     96     120     120       Ripple & Noise (Max.)     V     12 to 14     24 to 28     48 to 56       Voltage Tolerance     ± 1 %     100     ± 1 %     100       Line / Load Regulation     < 1 sec @ 230 VAC & 3 sec @ 115 VAC, Full load	Current Range	А	0 - 8	0 - 5	0 - 2.5					
Ripple & Noise (Max.)ImageV12 to 14 $< 1\%$ of VoutVoltage ToleranceImageV12 to 14 $24$ to 28 $48$ to 56Voltage ToleranceImage $\pm 1\%$ $\pm 1\%$ ImageLine / Load RegulationImage $\pm 1\%$ $\pm 1\%$ Line / Load Regulation $\geq 60$ ms at 230 VAC & $\geq 15$ ms at 115 VAC, Full loadRise TimeHold Up TimeImage $\geq 60$ ms at 230 VAC & $\geq 15$ ms at 115 VAC, Full loadRise Timems $< 100$ INPUTVoltage RangeVAC $90 \cdot 264$ Frequency RangeVAC $90 \cdot 264$ Efficiency @ 230V ACImageVACOvernot2.2 A $\oslash$ 115 VAC; 15 A $\oslash$ 330 VACInnush Current<48 Amps; Measured at 264 VAC, 257 C arbient, Cold Star										
Voitage Adjustment RangeV12 to 1424 to 2848 to 56Voitage Tolerance $\pm 1\%$ $\pm 1\%$ $\pm 1\%$ $\pm 1\%$ Line / Load Regulation $< 1 sc @ 230 VAC & < 3 sc @ 115 VAC, Full Ioad$	Ripple & Noise (Max.)									
Voltage Tolerance $\pm 1 %$ Line / Load Regulation $\pm 1 \%$ Line / Load Regulation $\pm 1 \%$ Turn On Time $< 1 \sec 0 230 VAC & < 3 \sec 0 115 VAC, Full load$		V								
Line / Load Regulation $\pm 1 \%$ Turn On Time $< 1 \sec 0 230 VAC & < 3 \sec 0 115 VAC, Full load$										
Turn On Time<				±1%						
Hold Up Time $\geq 60 \text{ ms at 230 VAC & } \geq 15 \text{ ms at 115 VAC, Full loadRise Timems<100INPUT<100Voltage RangeVAC90 - 264Frequency RangeHz50 / 60Efficiency @ 230V AC230 \text{ VAC}100 \text{ VB 98 %}AC Current2.2 A (= 115 VAC; 15.8 \overline 230 VACInrush Current40<248 \text{ Amps; Measured at 264 VAC; 25°C Ambient, Cold StarLeakage Current<<148 \text{ Amps; Measured at 264 VAC; 15.5 A (= 230 VACInrush Current<<148 \text{ Amps; Measured at 264 VAC; 15.5 A (= 230 VACVertoredad<100 \% 6 \text{ Rated Output Current; Hiccup Type; Auto-recovePROTECTION<110 \% 6 \text{ Rated Output; Lurent; Hiccup Type; Auto-recoveOverload^{VDC}17 \pm 131.5 \pm 161 \pm 2OvervoltageVDC17 \pm 181.5 \pm 161 \pm 2Over Temperature^{VDC}17 \pm 181.5 \pm 161 \pm 2Over Temperature^{VDC}12 \pm 2100 \pm 15 \pm 161 \pm 2Operating Temperature^{-25\%} C to 7^{70\%}; d=rate lineady above 50\% Cr or 10\% load at 70\%. 75\% Cr 10\% cr 10\% load at 70\%. 75\% Cr 10\% cr 10\% load at 70\%. 75\% Cr 10\% cr 10\% load at 70\%. 75\% Cr $			< 1 sec @ 230 \	VAC & < 3 sec @ 115 V/	AC, Full load					
Rise Timems $< 100$ INPUTVoltage RangeVAC $90 \cdot 264$ Frequency RangeHz $50 / 60$ Efficiency @ 230V ACUp to 89 %AC Current $2.2 A @ 115 VAC; 1.5 A @ 230 VACInrush Current< 48 Amps; Measured at 264 VAC, 25°C Ambient, Cold Star$	Hold Up Time									
Voltage RangeVAC90 - 264Frequency RangeHz $50 / 60$ Efficiency @ 230V ACUp to 89 %AC Current $2.2 A @ 115 VAC; 1.5 A @ 230 VAC$ Inrush Current $< 48 Amps; Measured at 264 VAC, 25°C Ambient, Cold Star$		ms								
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Efficiency @ 230V AC   Up to 89 %     AC Current   2.2 A @ 115 VAC; 1.5 A @ 230 VAC     Inrush Current   < 48 Amps; Measured at 264 VAC, 25°C Ambient, Cold Star										
AC Current2.2 A $\oplus$ 115 VAC; 1.5 A $\oplus$ 230 VACInrush Current< <td>&lt;<td>&lt;48 Amps; Measured at 264 VAC, 25°C Ambient, Cold Star</td>Leakage Current&lt;<td>&lt;<td>&lt;<td>&lt;<tm>(1 mk; 264 VAC Input<b>PROTECTION</b>Overload&gt; 110 % of Rated Output Current; Hiccup Type; Auto-recoverOvervoltageVDC17 ±131.5 ±161 ±2OvervoltageVDC17 ±131.5 ±161 ±2OvervoltagePower supply shuts down when the temperature of PCB below main transformer reaches typically 120°C. Turns on only after temperature falls below 90°C typically and Ac power is recover thereafter.Borgerating Temperature°C-25°C to +70°C; de-rate linearly above 50°C from 100% load 50°C to 50% load at 70°C25°C to 0°C startup is guaranteed w specification deviation (Output ripple can be more than 10% the output voltage)St</tm></td><td>. , ,</td><td>ΠZ</td><td colspan="3"></td></td></td></td>	< <td>&lt;48 Amps; Measured at 264 VAC, 25°C Ambient, Cold Star</td> Leakage Current< <td>&lt;<td>&lt;<td>&lt;<tm>(1 mk; 264 VAC Input<b>PROTECTION</b>Overload&gt; 110 % of Rated Output Current; Hiccup Type; Auto-recoverOvervoltageVDC17 ±131.5 ±161 ±2OvervoltageVDC17 ±131.5 ±161 ±2OvervoltagePower supply shuts down when the temperature of PCB below main transformer reaches typically 120°C. Turns on only after temperature falls below 90°C typically and Ac power is recover thereafter.Borgerating Temperature°C-25°C to +70°C; de-rate linearly above 50°C from 100% load 50°C to 50% load at 70°C25°C to 0°C startup is guaranteed w specification deviation (Output ripple can be more than 10% the output voltage)St</tm></td><td>. , ,</td><td>ΠZ</td><td colspan="3"></td></td></td>	<48 Amps; Measured at 264 VAC, 25°C Ambient, Cold Star	< <td>&lt;<td>&lt;<tm>(1 mk; 264 VAC Input<b>PROTECTION</b>Overload&gt; 110 % of Rated Output Current; Hiccup Type; Auto-recoverOvervoltageVDC17 ±131.5 ±161 ±2OvervoltageVDC17 ±131.5 ±161 ±2OvervoltagePower supply shuts down when the temperature of PCB below main transformer reaches typically 120°C. Turns on only after temperature falls below 90°C typically and Ac power is recover thereafter.Borgerating Temperature°C-25°C to +70°C; de-rate linearly above 50°C from 100% load 50°C to 50% load at 70°C25°C to 0°C startup is guaranteed w specification deviation (Output ripple can be more than 10% the output voltage)St</tm></td><td>. , ,</td><td>ΠZ</td><td colspan="3"></td></td>	< <td>&lt;<tm>(1 mk; 264 VAC Input<b>PROTECTION</b>Overload&gt; 110 % of Rated Output Current; Hiccup Type; Auto-recoverOvervoltageVDC17 ±131.5 ±161 ±2OvervoltageVDC17 ±131.5 ±161 ±2OvervoltagePower supply shuts down when the temperature of PCB below main transformer reaches typically 120°C. Turns on only after temperature falls below 90°C typically and Ac power is recover thereafter.Borgerating Temperature°C-25°C to +70°C; de-rate linearly above 50°C from 100% load 50°C to 50% load at 70°C25°C to 0°C startup is guaranteed w specification deviation (Output ripple can be more than 10% the output voltage)St</tm></td> <td>. , ,</td> <td>ΠZ</td> <td colspan="3"></td>	< <tm>(1 mk; 264 VAC Input<b>PROTECTION</b>Overload&gt; 110 % of Rated Output Current; Hiccup Type; Auto-recoverOvervoltageVDC17 ±131.5 ±161 ±2OvervoltageVDC17 ±131.5 ±161 ±2OvervoltagePower supply shuts down when the temperature of PCB below main transformer reaches typically 120°C. Turns on only after temperature falls below 90°C typically and Ac power is recover thereafter.Borgerating Temperature°C-25°C to +70°C; de-rate linearly above 50°C from 100% load 50°C to 50% load at 70°C25°C to 0°C startup is guaranteed w specification deviation (Output ripple can be more than 10% the output voltage)St</tm>	. , ,	ΠZ			
Inrush Current   < 48 Amps; Measured at 264 VAC, 25°C Ambient, Cold Star	/ -									
Leakage Current   <			<u> </u>							
PROTECTION     Overload   > 110 % of Rated Output Current; Hiccup Type; Auto-recove     Overvoltage   VDC   17 ±1   31.5 ±1   61 ±2     Overvoltage   Latched Type; Input AC power to be recycled to recover the power supply     Output Short Circuit   Hiccup mode when output is shorted; Auto-recovery type     Power supply shuts down when the temperature of PCB below   Power supply shuts down when the temperature of PCB below main transformer reaches typically 120°C. Turns on only after temperature falls below 90°C typically and AC power is recycled temperature falls below 90°C typically and AC power is recycled temperature falls below 90°C to 50°C form 100% load 50°C to 50% load at 70°C25°C to 0°C startup is guaranteed vispecification deviation (Output ripple can be more than 10% the output voltage)     Storage Temperature   °C   -40 to +85     Cooling   M   Storage Temperature cooled     Humidity   RH   S to 95 %, Non-condensing     Altitude   m   2000     Vibration   Component : 10 ~ 500 Hz, 2 G 10 min. / 1 cycle, period for 60 meach along X, Y, Z axes     SAFETY & EMC   VAC   I/P to Earth: 2500 meach along X, Y, Z axes     Dielectric Withstand VAC   VAC   I/P to O/P: 4000 O/P to O/P: 4000 O/P to Earth: 1500 O/P to O/P: 4000 O/P to Earth: 1500 O/P to O/P: 4000 O/P to Earth: 1500 meach along X, Y, Z axes     Dimension (W x H x D)										
Overload> 110 % of Rated Output Current; Hiccup Type; Auto-recover 4 10 % of Rated Output Current; Hiccup Type; Auto-recover 4 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			<	T MA; 264 VAC Input						
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Operating TemperatureSo°C to 50% load at 70°C25°C to 0°C startup is guaranteed v specification deviation (Output ripple can be more than 10% the output voltage)Storage Temperature°C-40 to +85CoolingRH5 to 95%, Non-condensingHumidityRH5 to 95%, Non-condensingAltitudem2000VibrationComponent : 10~500 Hz, 2 G 10 min. / 1 cycle, period for 60 reach along X, Y, Z axesSAFETY & EMCDielectric Withstand VoltageVACVIP to CPP: 4000 U/P to O/P: 4000 O/P to Earth: 1500OTHERSmmDimension (W x H x D)mmMountingGmsROHS COMPLIANCE:For documentation by product, refer to c3controls.com	ENVIRONMENT									
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VibrationComponent : 10 ~ 500 Hz, 2 G 10 min. / 1 cycle, period for 60 reach along X, Y, Z axesSAFETY & EMCImage: Component : 10 ~ 500 Hz, 2 G 10 min. / 1 cycle, period for 60 reach along X, Y, Z axesDielectric Withstand VoltageVACImage: Component : 10 ~ 00/P to Earth: 2500 reach along X, Y, Z axesDielectric Withstand VoltageVACImage: Component : 10 ~ 00/P to Earth: 2500 reach along X, Y, Z axesOTHERSImage: Component : 10 ~ 00/P to Earth: 1500 reach along X, Y, Z axesImage: Component : 10 ~ 00/P to Earth: 2500 reach along X, Y, Z axesOTHERSImage: Component : 10 ~ 00/P to Earth: 1500 reach along X, Y, Z axesImage: Component : 10 ~ 00/P to Earth: 2500 reach along X, Y, Z axesOTHERSImage: Component : 10 ~ 00/P to Earth: 1500 reach along X, Y, Z axesImage: Component : 10 ~ 00/P to Earth: 2500 reach along X, Y, Z axesOthersImage: Component : 10 ~ 00/P to Earth: 1500 reach along X, Y, Z axesImage: Component : 10 ~ 00/P to Earth: 1500 reach along X, Y, Z axesOthersImage: Component : 10 ~ 00/P to Earth: 1500 reach along X, Y, Z axesImage: Component : 10 ~ 00/P to Earth: 1500 reach along X, Y, Z axesOthersImage: Component : 10 ~ 00/P to Earth: 1500 reach along X, Y, Z axesImage: Component : 10 ~ 00/P to Earth: 1500 reach along X, Y, Z axesOthersImage: Component : 10 ~ 00/P to Earth: 1500 reach along X, Y, Z axesImage: Component : 10 ~ 00/P to Earth: 1500 reach along X, Y, Z axesOthersImage: Component : 10 ~ 00/P to Earth: 1500 reach along X, Y, Z axesImage: Component : 10 ~ 00/P to Earth: 1500 reach along X, Y, Z axesOther Struct : 10 ~ 00/P to Earth: 10 ~ 00/P to Earth: 10 ~ 00/P to Earth:	Humidity	RH	5 to 95 %, Non-condensing							
NormationImage: Bioline ConstraintsSAFETY & EMCImage: Bioline ConstraintsDielectric Withstand VoltageVACImage: Bioline ConstraintsImage: Bioline ConstraintsOTHERSImage: Bioline ConstraintsDimension (Wx H x D)MmImage: Bioline ConstraintsImage: Bioline ConstraintsWeightImage: Bioline ConstraintsMountingImage: Bioline ConstraintsROHS COMPLIANCE:For documentation by product, refer to c3controls.com	Altitude	m	2000							
Dielectric Withstand VoltageVACI/P to Earth: 2500 I/P to O/P: 4000 O/P to Earth: 1500OTHERSDimension (W x H x D)mm43 x 109.8 x 102.7Weightgms350MountingI35mm DIN RailROHS COMPLIANCEFor documentation by product, refer to c3controls.com	Vibration		Component : 10 ~ 500 Hz, 2 G 10 min. / 1 cycle, period for 60 min. each along X, Y, Z axes							
Defective withstand VoltageVACI/P to O/P: 4000 O/P to Earth: 1500OTHERSDimension (W x H x D)mm43 x 109.8 x 102.7Weightgms350MountingISom DIN RailROHS COMPLIANCEFor documentation by product, refer to c3controls.com	SAFETY & EMC									
Dimension (W x H x D)     mm     43 x 109.8 x 102.7       Weight     gms     350       Mounting      35mm DIN Rail       ROHS COMPLIANCE     For documentation by product, refer to c3controls.com		VAC	I/P to O/P: 4000							
Weight gms 350   Mounting Image: Compliance in the second se	OTHERS									
Weight gms 350   Mounting Image: Compliance in the second se	Dimension (W x H x D)	mm		43 x 109.8 x 102.7						
Mounting 35mm DIN Rail   ROHS COMPLIANCE For documentation by product, refer to c3controls.com										
ROHS COMPLIANCE     For documentation by product, refer to c3controls.com		gins								
	<u> </u>									
For complete ratings and detailed specifications refer to c3controls com	<b>ROHS COMPLIANCE</b>		For documentatio	n by product, refer to	c3controls.com					
complete landings and detailed specifications refer to escondobicom.	For complete ratings and detailed spe	cifications re	fer to c3controls.com.							

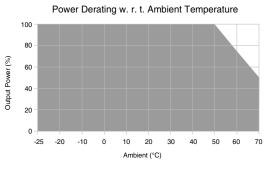
#### Also Available in 60W\*/240W\*/480W\*

## DIMENSIONS



## DERATING CURVE

#### IPS1-120-\*\*



## COMPLIANCES

### **APPLICABLE EMI / EMC STANDARDS**

CATEGORY	REFERENCE STANDARDS	TESTING LEVEL
Conducted Emission	CISPR11	CLASS A (for 60W & 120W)
	CISITATI	CLASS B (for 240W & 480W)
Radiated Emission	CISPR22	CLASS A
Electrostatic Discharge	IEC 61000-4-2	Level 4, Criteria A Level 3, Criteria A
Radiated Susceptibility	IEC 61000-4-3	Level 3, Criteria B
Electrical Fast Transient/ Burst	IEC 61000-4-4	Level 3, Criteria A
Surge	IEC 61000-4-5	Level 3, Criteria A
Conducted Susceptibility	IEC 61000-4-6	Level 3, Criteria B
Power Frequency Magnetic Field	IEC 61000-4-8	Level 4, Criteria A
Voltage Dips & Interruption	IEC 61000-4-11	Criteria A & B

## CERTIFICATIONS

## Conformity to Standards:

UL 508 CSA C22.2 NO. 107.1-01 IEC 62368-1

CE Marked (per EU Low Voltage Directive 2014/35/EC and RoHS Directive 2011/65/EU)

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Certifications:

UL File #: E336563

