

HARDWARE USER MANUAL



- DD-0953-360

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FCC Notice

This equipment has been tested and found to comply with the limits for a Class-A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. It may cause harmful interference to radio communications if the equipment is not installed and used in accordance with the instructions. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

Déclaration FCC

Cet équipement a été testé et reconnu conforme aux limites de la classe A pour les équipements numériques, conformément à la section 15 des Réglementations FCC. Ces limites sont conçues pour fournir une protection raisonnable contre toutes interférences nuisibles dans un milieu résidentiel. Cet équipement génère, utilise, et peut émettre de l'énergie de fréquence radio et, s'il n'est pas installé et utilisé conformément au manuel d'instruction, peut perturber la réception radio. Cependant, il n'est pas garanti que l'équipement ne produira aucune interférence dans une installation particulière. Si cet équipement cause des interférences nuisibles à la réception radio ou télévisée, qui peuvent être déterminées en l'éteignant et le rallumant, l'utilisateur est encouragé à essayer de remédier au problème en prenant les mesures suivantes:

- Réorienter ou déplacer l'antenne réceptrice.
- Augmenter la distance entre l'équipement et le récepteur.
- Connecter l'équipement à une prise secteur sur un circuit différent de celui utilisé par le récepteur.
- Consulter le négociant ou un technicien radio/TV expérimenté.

Attention: Tout changement ou modification non expressément approuvé par le concessionnaire de cet appareil pourrait annuler l'autorité de l'utilisateur à utiliser l'équipement.

CE Mark Warning

This is a Class-A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

CE Mark Avertissement

Ceci est un produit de classe A. Dans un environnement domestique, ce produit peut être utilisé en présence d'interférences radio.

This document is the current official release manual. Please check our website (www.leonton.com) for any updated manual or contact us by e-mail (sales@leonton.com).

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OVERVIEW

Leonton's DD-0953 Series is a DC/DC output DIN-rail mounted power booster. It is designed in compact size IP30 metal housing. DD-0953-360 with the booster technology is the best solution for the applications with low voltage power source available. Besides, the -40°C to 75°C wide temperature range design makes it perfect for operating in critical industrial environments, like automation and automotive.

Key Features

Interface & Performance

- Featuring the booster technology from 9-36(up to 55) VDC power input to 53VDC
- Output voltage adjustable (48V-55V) via built-in SVR
- Protection: short circuit (Output) / overload (Input)
- Protection: Input / Output reverse polarity protection
- Protection: Input Under Voltage
- LED power indicator (Input / Output)

Power Input

- Power inputs contact interface are on the front
- Support DC power inputs through 3-pin terminal block interface

Power Output

- Support DC power output through removable 4-pin terminal block interface
- DC output voltage is adjustable from 48 to 55 VDC by the adjusting knob

Certification

- CE/FCC

Operating Temperature

- Operating temperature model: -40°C ~ 75°C

Case/Installation

- IP30 protection (not certified by UL)
- DIN-Rail and Wall-Mount design
- Installation in a pollution degree 2 industrial environment
- Fan-less Design, cooling by free air convection

Package Contents

- 1 - DD-0953-360 - Unit weight: 0.388 kg (0.86 lbs.), Shipping weight: 0.516 kg (1.14 lbs.)
- 2 - Wall mounting brackets and screws
- 1 - Quick installation guide

Safety Precaution

Attention

If the DC voltage is supplied by an external circuit, please use a protection device on the power supply input. Supply by UL Listed industrial use power. The industrial power booster's hardware specs, ports, cabling information, and wiring installation will be described within this user manual.

Attention

Si la tension CC est fournie par un circuit externe, veuillez utiliser un dispositif de protection sur l'entrée d'alimentation. Fourniture par courant industriel homologué UL. Les spécifications matérielles, les ports, les informations de câblage et l'installation du câblage du convertisseur de média industriel seront décrits dans ce manuel d'utilisation.

Warning Labels

The caution label means that you should check the certain information on user manual when working with the device. (Shown in *Figure 1.1*)

Étiquettes d'avertissement

L'étiquette d'avertissement signifie que vous devez vérifier certaines informations sur le manuel d'utilisation lorsque vous travaillez avec l'appareil. (Montré dans la *Figure 1.2*)



Figure 1.1 - Caution Label
Figure 1.1 - Étiquette de mise en garde



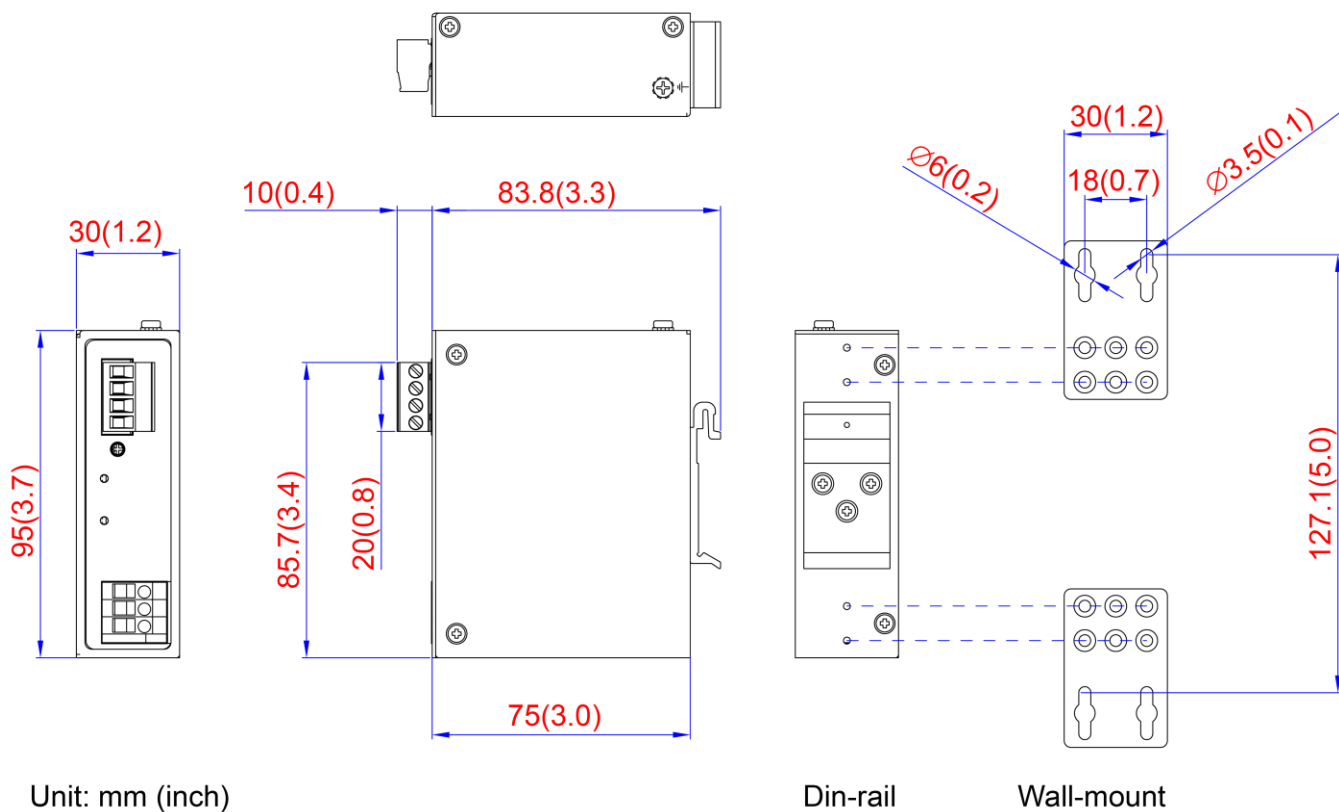
Figure 1.2 - Hot Surface Warning Label
Figure 1.2 - Étiquette d'avertissement de surface chaude

HARDWARE DESCRIPTION

Physical Dimensions

Figure 2.1, below, shows the physical dimensions of DD-0953-360.

(W x H x D) is 30mm x 95mm x 75mm



Unit: mm (inch)

Figure 2.1: Physical Dimensions

Front Panel

The front panel of the DD-0953-360 Industrial Power Booster is shown below in Figure 2.2.

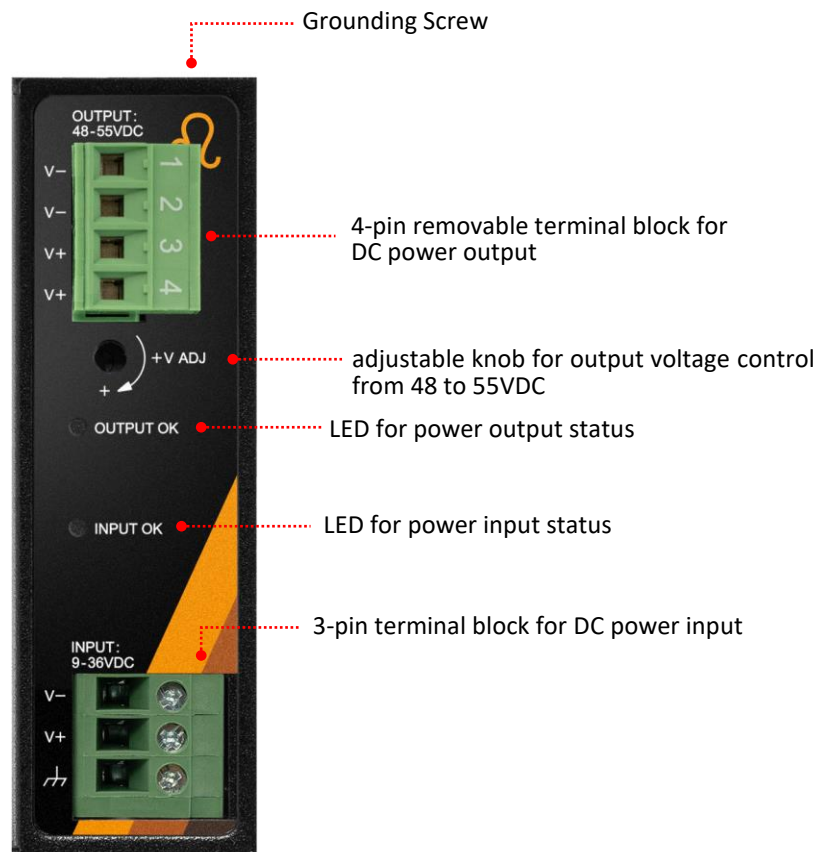


Figure 2.2: The Front Panel

Top View

Figure 2.3, below shows the top panel of the DD-0953-360 Industrial Power Booster.



Figure 2.3: Top Panel View

LED Indicators

There are LED light indicators located on the front panel of the industrial power booster that display the power status, see below in Table 2.1.

LED	Color	Description	
Input OK	Green	On	DC Input works normally
		Off	DC input is failed
Output OK	Green	On	DC output works normally
		Off	DC output is failed

Table 2.1: LED Indicators

Wiring the Power Inputs



Caution: Please follow the below steps to insert the power wire.



Attention: Veuillez suivre les étapes ci-dessous pour insérer le câble d'alimentation.

- Step 1 Insert the positive and negative wires into the +V and -V contacts on the terminal block connector as shown below in Figure 2.4.

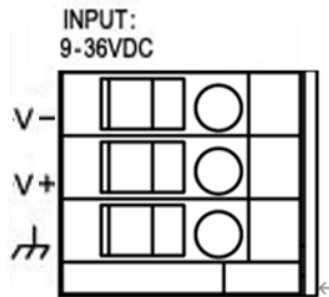


Figure 2.4: Power Terminal Block

- Step 2 Tighten the wire-clamp screws to prevent the wires from loosening, as shown below in Figure 2.5.

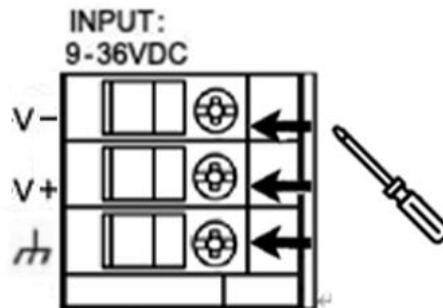


Figure 2.5: Wire-Clamp Screws on the Side Panel



Caution: Only use copper conductors, 125°C, tighten to 7 in-lbs (0.79 Nm). The wire gauge for the terminal block should range between 18~20 AWG.



Attention: Utilisez uniquement des conducteurs en cuivre, 125 ° C, serrer à 7 in-lbs (0,79 Nm). Le calibre des fils du bornier doit être compris entre 18 et 20 AWG.

Wiring the Power Outputs



Caution: Please follow the below steps to insert the power wire.



Attention: Veuillez suivre les étapes ci-dessous pour insérer le câble d'alimentation.

- Step 1 Insert the positive and negative wires into the PWR (V-, V-, V+, V+) contacts on the terminal block connector as shown below in Figure 2.6.

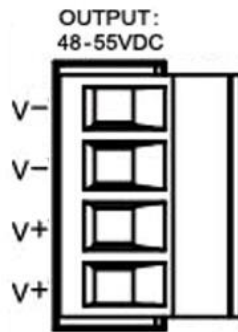


Figure 2.6: Power Terminal Block

- Step 2 Tighten the wire-clamp screws to prevent the wires from loosening, as shown below in Figure 2.7.

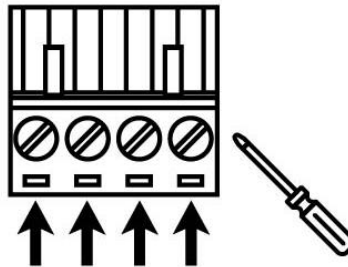


Figure 2.7: Wiring the copper conductors to the terminal block

- Step 3 Rotate the knob to adjust power output voltage from 48-55VDC, as shown below in Figure 2.8.

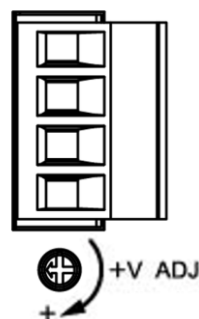


Figure 2.8: Adjustable Knob for Power Output Voltage



Caution: Please adjust the knob by fine-tuning. Do not rotate too fast to cause problems with the power supply.



Attention: Veuillez ajuster le bouton en ajustant. Ne tournez pas trop vite pour causer des problèmes avec l'alimentation.



Caution: Only use copper conductors, 125°C, tighten to 7 in-lbs (0.79 Nm). The wire gauge for the terminal block should range between 18~20 AWG.



Attention: Utilisez uniquement des conducteurs en cuivre, 125 ° C, serrer à 7 in-lbs (0,79 Nm). Le calibre des fils du bornier doit être compris entre 18 et 20 AWG.

Grounding Note

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the ground screw to the grounding surface prior to connecting devices. The grounding screw symbol is shown below in Figure 2.9.

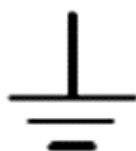


Figure 2.9: Grounding screw symbol



Caution: Using a shielded cable achieves better electromagnetic compatibility.



Attention: L'utilisation d'un câble blindé permet une meilleure compatibilité électromagnétique.

MOUNTING INSTALLATION

DIN-Rail Mounting

The DIN-Rail is pre-installed on the industrial power booster from the factory. If the DIN-Rail is not on the unit, please see Figure 3.1 to learn how to install the DIN-Rail on it.



Figure 3.1: The Rear Side of the Power Booster and Wall Mounting Bracket

Follow the steps below to learn how to hang the industrial power booster.

Step 1. Use the screws to install the DIN-Rail bracket on the rear side of the industrial power booster.

Step 2. To remove the DIN-Rail bracket, do the opposite from Step 1.

Step 3. After the DIN-Rail bracket is installed on the rear side of the power booster, insert the top of the DIN-Rail on to the track as shown below in Figure 3.2.

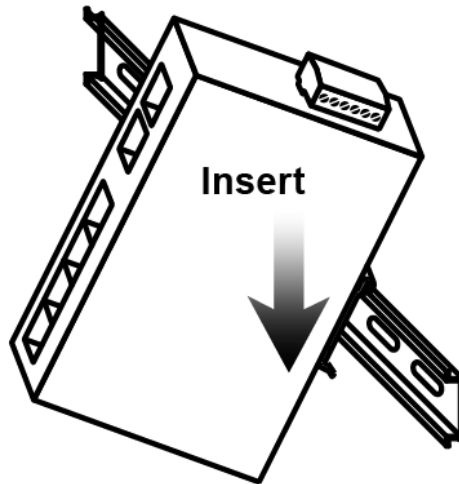


Figure 3.2: Insert the Power Booster on the DIN-Rail

Step 4. Lightly pull down the bracket on to the rail as shown below in Figure 3.3.

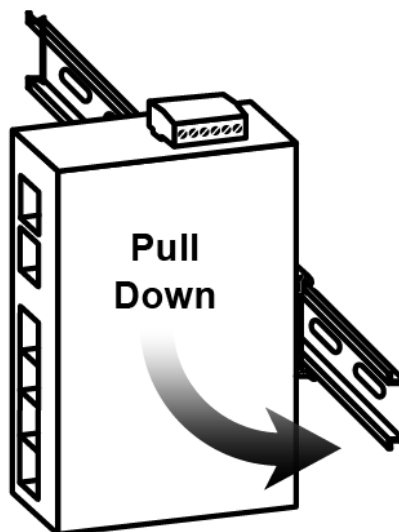


Figure 3.3: Stable the Power Booster on DIN-Rail

Step 5. Check if the bracket is mounted tightly on the rail.

Step 6. To remove the industrial power booster from the rail, do the opposite from the above steps.

Wall Mounting

Follow the steps below to mount the industrial power booster using the wall mounting bracket as shown below in Figure 3.4.

- Step 1. Remove the DIN-Rail bracket from the industrial power booster by loosening the screws.
- Step 2. Place the wall mounting brackets on the top and bottom of the industrial power booster.
- Step 3. Use the screws to screw the wall mounting bracket on the industrial power booster.
- Step 4. Use the hook holes at the corners of the wall mounting bracket to hang the industrial power booster on the wall.
- Step 5. To remove the wall mount bracket, do the opposite from the steps above.

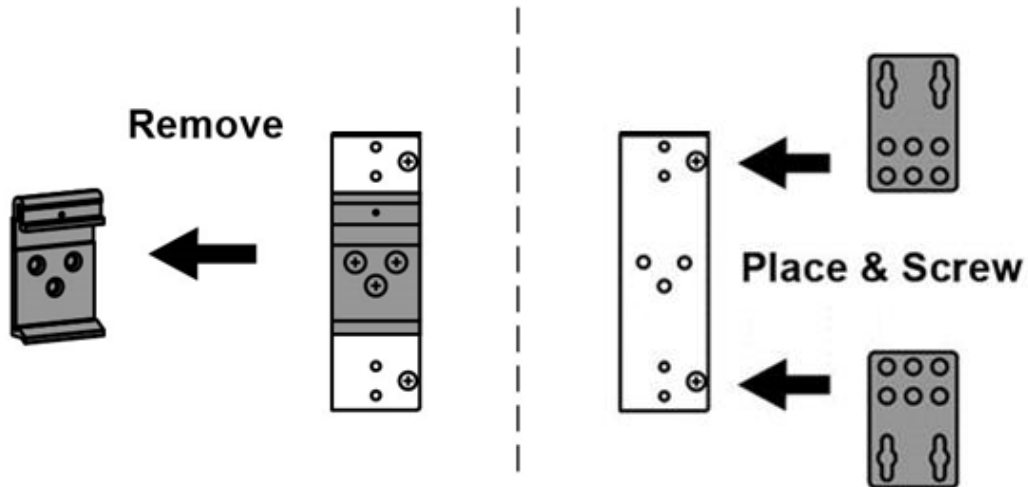


Figure 3.4: Remove DIN-Rail Bracket from the Power Booster and Install the Wall Mount Bracket

Below, in Figure 3.5 are the dimensions of the wall mounting bracket.

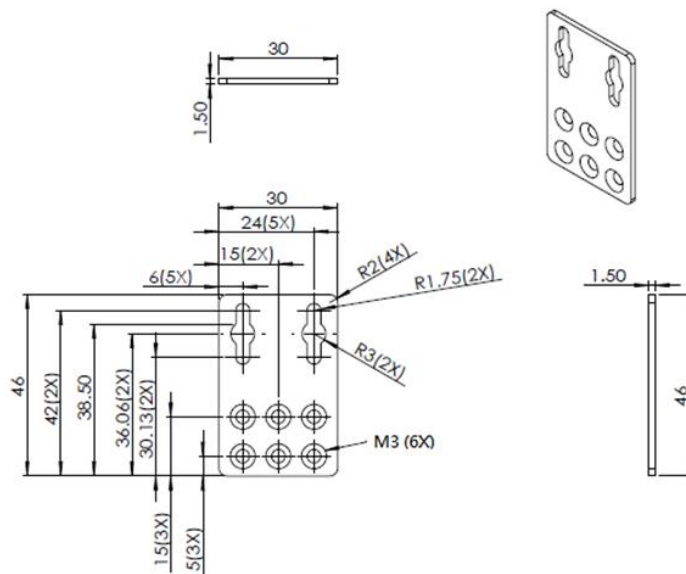


Figure 3.5: Wall Mounting Bracket Dimensions

HARDWARE INSTALLATION

Installation Steps

This section will explain how to install DD-0953-360.

Installation Steps

Step 1. Unpack the industrial power booster from the original packing box.

Step 2. Check if the DIN-Rail bracket is screwed on the industrial power booster.

- If the DIN-Rail is not screwed on the industrial power booster, please refer to the **DIN-Rail Mounting** section for DIN-Rail installation.
- If you want to wall mount the industrial power booster, please refer to the **Wall Mounting** section for wall mounting installation.

Step 3. To hang the industrial power booster on a DIN-Rail or wall, please refer to the **Mounting Installation** section.

Step 4. Connect the power source equipment to the industrial power booster and then the power input LED light will turn on.

- If you need help on how to wire power, please refer to the **Wiring the Power Inputs** section.
- Please refer to the **LED Indicators** section for LED light indication.

Step 5. Connect the industrial power booster to the powered device, e.g.: Ethernet switch...etc., and the power output LED light will turn on.

- Please refer to the **LED Indicators** section for LED light indication.

Step 6. When all connections are set and the LED lights all show normal, the installation is complete.



Caution: If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.



Attention: Si l'équipement est utilisé d'une manière non spécifiée par le fabricant, la protection fournie par l'équipement peut être altérée.



Caution: The installation that the safety to any system incorporating the equipment is the responsibility of the assembler of the system.



Attention: L'installation que la sécurité de tout système intégrant l'équipement est de la responsabilité de l'assembleur du système.



Caution: This is an OPEN TYPE module and should be installed in a final safety enclosure characteristic.



Attention: Il s'agit d'un module de TYPE OUVERT et doit être installé dans une caractéristique finale d'enceinte de sécurité.



Caution: This device is intended for use indoor and at altitudes up to 2000 meters.



Attention: Cet appareil est destiné à être utilisé en intérieur et à des altitudes allant jusqu'à 2000 mètres.



Caution: Ambient Relative Humidity should be within the range of 5 and 95% (non-condensing).



Attention: L'humidité relative ambiante doit être comprise entre 5 et 95% (sans condensation).

TROUBLE SHOOTING

- Verify you have the right power cord or adapter. Never use a power supply or adapter with a non-compliant DC output voltage or it will burn the equipment.
- If the power indicator LED does not turn on when the power cord is plugged in, the user may have a problem with the power cord. Check for loose power connections, power losses or surges at the power outlet.
 - ◆ Please contact Leonton for technical support service, if the problem still cannot be resolved.
- If the industrial power booster LED indicators are normal and the connected cables are correct, but the packets still cannot transmit. Please check the Ethernet devices' configuration or status of the system.

For any repair or maintenance needs, please contact us.

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