



STRICTLY CONFIDENTIAL

轿门 • Car Door  
Augusta ECO  
控制器说明 • Controller Instruction

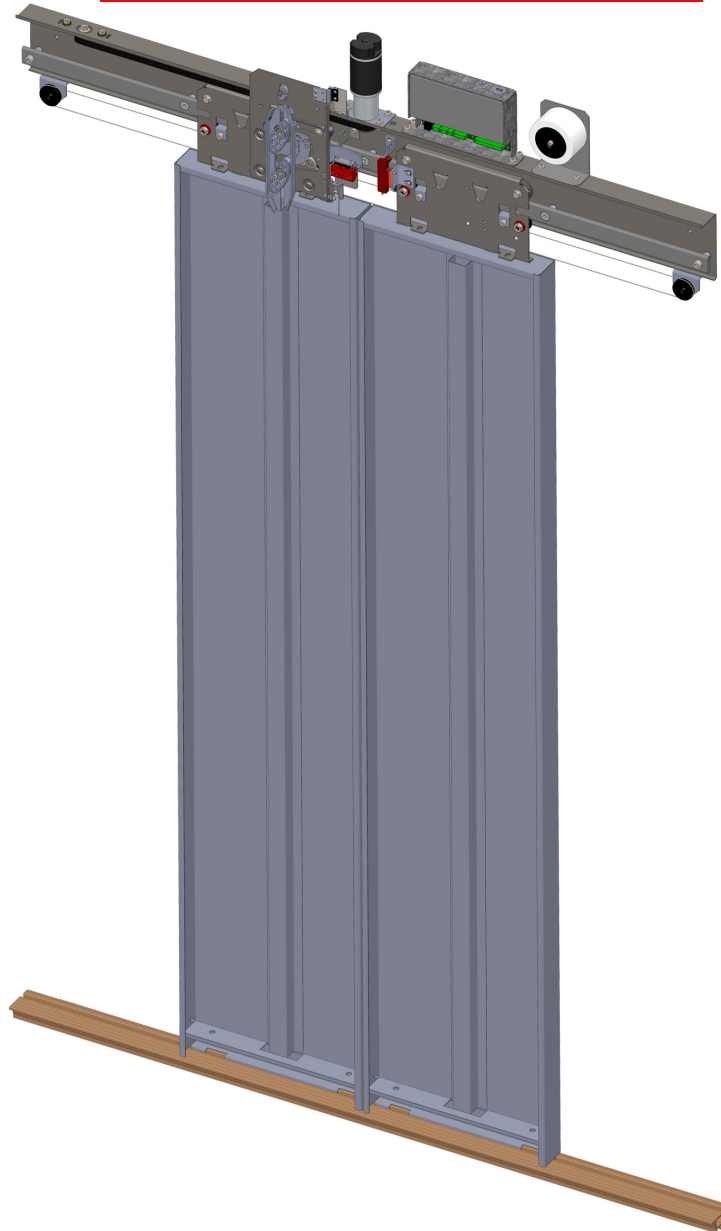
This document is the property of Wittur Elevator Components (Suzhou) Co.Ltd .(WCN) and shall be returnable on demand by WCN. It shall not be used disclosed to a third party, copied or reproduced in any form whatsoever, without WCN' s prior written consent. Any rights or patent, design, copyright, trademark in or relative to the document shall be vested in WCN.

页码 / Page 1  
日期 / Date 07.11.2018  
版本 / Version B  
代码 / Code TEC-GM-AE001

机 密  
该文件归威特电梯部件（苏州）有限公司所有。威特公司有权收回。没有威特公司的事先许可，禁止以任何形式复印或复制泄露给第三方。文件内或与文件有关的任何权利、专利、设计、版本或商标均属于威特公司。

AUGUSTA ECO CONTROLLER INSTRUCTION

发行日期  
2019.01.04  
Wittur



中文  
English

未经事先书面许可，不得以任何形式重印、翻译或复制本说明书的部分或全部内容。威特集团保留对本操作说明书所包含信息和图片进行更改的权利，恕不事先通知。

We reserves the right to make changes in the information and pictures contained in these operating instructions without prior notice.



轿门 • Car Door  
Augusta ECO  
控制器说明 • Controller Instruction

页码 / Page 2  
日期 / Date 07.11.2018  
版本 / Version B  
代码 / Code TEC-GM-AE001

本控制器说明书适用于：

These controller instruction are applicable to:

## Augusta ECO 轿门

## Augusta ECO Car Door

威特中国保留纠正或更改本手册内容以及产品详情的权利，恕不事先通知。我方明确保留进行改进曳引机或其安全标准的技术变更的权利，恕不事先通知。若未能遵守上述规定而产生的任何损坏、伤害或费用，我方不承担任何责任。对于详细信息正确性和完整性，我方不提供任何担保。

WITTUR reserves the right to correct or change the contents of this manual and these product details without prior notice. We expressly reserve the right to make technical changes which improve the lift machines or their safety standards without prior notice. No liability can be accepted for damage, injuries or expense arising therefrom. We cannot guarantee the correctness and completeness of the details.



威特电梯部件（苏州）有限公司  
中国江苏省吴江汾湖经济开发区库星路 18 号  
电话：+86-512-82072888  
传真：+86-512-63220044  
info.cn@wittur.com



Wittur Elevator Components (Suzhou) C., Ltd.  
18 Shexing Road, FOHO Economic Development Zone  
Wujiang City, Jiangsu Province, P.R. China  
Tel: +86-512-82072888  
Fax: +86-512-63220044  
info.cn@wittur.com

## 目录

## Contents

|                                  |    |  |    |
|----------------------------------|----|--|----|
| 前言 .....                         | 4  | Foreword.....  | 4  |
| 使用的符号 .....                      | 5  | Symbols Used.....  | 5  |
| 警告信息 .....                       | 6  | Warnings.....  | 6  |
| 建议 .....                         | 5  | Suggestions.....   | 5  |
| 安装工具 .....                       | 7  | Tools.....   | 7  |
| 交货 .....                         | 7  | Delivery.....  | 7  |
| 1. 安装前的一般信息 .....                | 8  | 1. General information prior to installation.....                      | 8  |
| 1.1 产品说明与功能 .....                | 8  | 1.1 Description and function.....                                      | 8  |
| 2. 电子控制器 .....                   | 8  | 2. Electronic controller.....  | 8  |
| 3. 调试 .....                      | 9  | 3. Commissionin.....   | 9  |
| 3.1 电源 .....                     | 9  | 3.1 Power Supply.....  | 9  |
| 3.1.1 紧急电源 .....                 | 9  | 3.1.1 Emergency supply.....  | 9  |
| 3.2 门参数的准备和学习 .....              | 10 | 3.2 Preparation and learning of door parameters.....                   | 10 |
| 3.3 驱动配有电梯控制器的轿门 .....           | 11 | 3.3 Driving the doors with the elevator controller.....                | 11 |
| 3.4 通过服务驱动按钮驱动轿门 .....           | 11 | 3.4 Driving the doors by the service drive buttons.....                | 11 |
| 4. 必要的调整 .....                   | 12 | 4. Adjustments always to be done.....                                  | 12 |
| 4.1 调整关闭力 .....                  | 12 | 4.1 Closing force adjustment.....                                      | 12 |
| 4.2 调整速度 .....                   | 12 | 4.2 Adjustment of the speed.....                                       | 12 |
| 5. LED 说明 .....                  | 13 | 5. Description of LED's.....   | 13 |
| 5.1 LED 输入 .....                 | 13 | 5.1 LED's inputs.....  | 13 |
| 5.2 LED 输出 .....                 | 13 | 5.2 LED's outputs.....   | 13 |
| 5.3 不同 LED 灯 .....               | 13 | 5.3 Different LED's.....   | 13 |
| 6. 电气接口 .....                    | 14 | 6. Electrical interfaces.....  | 14 |
| 6.1 输入 .....                     | 14 | 6.1 Inputs.....  | 14 |
| 6.2 乘客保护装置输入与电源 .....            | 14 | 6.2 Passenger protection device input and supply.....                  | 14 |
| 6.3 输出 .....                     | 15 | 6.3 Outputs.....   | 15 |
| 7. DIP 开关 .....                  | 16 | 7. DIP-switches.....   | 16 |
| 8. 故障排除 .....                    | 17 | 8. Troubleshooting.....  | 17 |
| 8.1 门不动作 .....                   | 17 | 8.1 The door does not move.....  | 17 |
| 8.1.1 门停止不动 .....                | 17 | 8.1.1 The door does not move at all.....                               | 17 |
| 8.1.2 门无法打开 .....                | 17 | 8.1.2 The door does not open.....                                      | 17 |
| 8.1.3 门无法关闭 .....                | 17 | 8.1.3 The door does not close.....                                     | 17 |
| 8.1.4 门不能完全打开或关闭 .....           | 17 | 8.1.4 The door only partly opens or closes.....                        | 17 |
| 8.2 门无法重开 .....                  | 18 | 8.2 The door does not reopen.....                                      | 18 |
| 8.3 引起复位或关断的故障 .....             | 18 | 8.3 Faults causing reset or switch off.....                            | 18 |
| 8.4 降低门工作性能的故障 .....             | 18 | 8.4 Faults decreasing performance of door.....                         | 18 |
| 9. Augusta ECO 驱动电路图 .....       | 19 | 9. Circuit diagram Augusta ECO drive.....                              | 19 |
| 10. 威特编程工具接口软件描述 .....           | 20 | 10. Wittur programming tool interface software description.....        | 20 |
| 10.1 介绍 .....                    | 20 | 10.1 Introductionl.....  | 20 |
| 10.2 将威特程序设计工具连接到 ECO 门机电路 ..... | 20 | 10.2 Connecting the Wittur programming tool to the ECO-electronic..... | 20 |
| 10.3 编程工具的菜单结构 .....             | 20 | 10.3 Menu structure of programming tool.....                           | 20 |
| 10.4 通过编程工具进行调试 .....            | 21 | 10.4 Door adjustment with the programming tool.....                    | 21 |
| 11. ECO 软件默认设定 .....             | 27 | 11. Default adjustment of ECO software.....                            | 27 |



## 前言

## Foreword

感谢您选择威特产品！

在开始安装本产品前，请先阅读本文中的信息。您将了解到很多有关组装和维护威特产品，确保其正常运行，并获得最大投资回报的重要注意事项。此外，您还可获得有关产品维护与保养方面的重要信息，这对于保证产品始终安全运行十分关键。

威特长期以来一直致力于研发低噪音、高质量的环保产品。

本手册随货发运，必须一直放在电梯机房内。按照当前规定，所有产品都配备用于识别的铭牌以及合格证标志。对于威特产品您如有相关需求，请将铭牌上的识别数据告知我们。

诚挚希望您对此款威特产品十分满意。

您忠实的  
威特

Congratulations on choosing B WITTUR product!

Before starting the installation of this product, read the information contained in this document.

You will find important warnings on how to assemble and maintain your WITTUR product in good operating conditions and to get the maximum of your investment.

You will also find important information concerning the product care and maintenance which are an important factor to ensure safety at all times.

WITTUR has long been involved in research aimed at reducing noise level and in design that takes into due consideration the product quality and the conservation of environment.

This document is an integral part of the supply and must be available in the lift power room at all times.

All products are provided with identification type label and in case with certification marks in accordance with the current rules.

In case of need concerning the product, the identification data on the label must be always communicated to us.

We hope you will get full satisfaction from this WITTUR product.

Yours faithfully  
WITTUR

## 使用的符号

## Symbols Used

使用下列符号标示重要的安全信息和危险警告：

The points that are important under the safety viewpoint and danger warnings are indicated with these symbols:



普通危险警示



Danger general



重要警告



Important warnings



有人员受伤的危险  
(如锐利的边缘、突出的部件等)



Risk of personal injury  
(e.g. sharp edges, protruding parts)



有机械部件损坏的风险 (如安装错误等)



Risk of damage to mechanical parts  
(e.g. incorrect installation)



带电部件



Live parts

## 警告信息

## Warnings

- 威特对由于第三方损坏包装材料引起的产品损坏不承担任何责任。
- 在开始组装前，检查收到的产品是否与订单和装箱单一致，以及产品在运输过程中有无损坏。
- 威特采用持续研发战略，保留对产品改进的权利，恕不另行通知。本手册中包含的图片、说明和数据，仅起参考说明作用，并无任何约束强制作用。
- 为确保产品安全，避免对产品进行任何变更或改动。
- 威特仅承担与原装零部件相关的责任。
- 威特产品仅限用于电梯行业；因此威特仅承担其产品用于此类用途时的责任。
- 本产品仅用于专业用途，禁止任何不正确的使用，包括出于爱好或自己动手操作等。
- 为了避免人员受伤和设备损坏，必须由受过专门培训的人员负责本产品的搬运、安装、调试和维护，操作人员必须采用穿着工作服并使用适当的工具。
- 根据适用法律，任何与正确安装本产品相关的土建工作都必须以专业性的施工方法完成。
- 根据适用法律，电气 / 电子元件与本地电源的连接都必须以专业方式完成。
- 根据适用法律，所有电气 / 电子元件的金属支架都必须以专业方式接地。
- 在为本产品接通电源前，检查确保可用电源符合本产品要求。
- 根据适用法律，在开始对本产品的任何操作前，电气 / 电子元件都必须以专业方式接地。
- 开始操作电气 / 电子元件前，请为系统断电。
- 威特不负责安装本产品时的土建工作以及电气 / 电子元件与电源的连接工作。
- 威特对由于紧急开门装置使用不当引起的人员受伤 / 财产损失不承担任何责任。
- WITTUR will not be held liable for any damage caused by tampering of the packing material by thirds.
- Before starting assembly, check that the product received corresponds to the order and to the packing list and that no damage has occurred in transit.
- Within its policy of continual research, WITTUR reserves to make changes to its products without notice. The figures, descriptions and data contained in this manual are intended as purely indicative and not binding.
- To ensure the safety of the product, avoid any alteration or tampering.
- WITTUR liability will be limited to the original components only.
- WITTUR product is intended for use in the lift sector only; therefore WITTUR liability shall be limited to such use.
- This product is intended for professional use. Any improper use, including for hobby or DIY, is prohibited.
- In order to prevent any injury to persons and damage to property, the handling, installation, adjustment and maintenance must be carried out by suitably trained personnel, using appropriate clothing and equipment.
- Any masonry work connected with the correct installation of the product must be executed in a workmanlike manner according to the applicable laws.
- The connection of the electric/electronic units to the local power supply must be executed in a workman like manner according to the applicable laws.
- All metal parts supporting the electric/electronic units must be connected to an earth system in a workmanlike manner according to the applicable laws.
- Before connecting the product to the power supply check that the product's requirement corresponds with the power supply available.
- Before starting any work on the electric/electronic units must be connected to an earth system in a workmanlike manner according to the applicable laws.
- Before starting any work on the electric/electronic components disconnect power from the system.
- WITTUR shall have no responsibility on the execution of masonry works or the connection of electric/electronic components to the power supply.
- WITTUR shall not be liable for damages/injury to property/ persons caused by improper use of the emergency opening devices.

## 建议

## Suggestions

- 产品存放期间应放置在原包装内，以防恶劣天气影响和阳光直晒，从而避免包装材料内积水 / 凝水。
- 禁止随意丢弃包装材料影响环境。
- 拆除的产品应按地方法律规定进行妥善处理，禁止随意丢弃影响环境。
- 尽可能不丢弃在垃圾堆中，最好回收利用。
- 回收前请检查不同包装材料的材质，以适当的方式回收。

- Keep the material in the original packing, protected from bad weather and direct exposure to sun during the storage period in order to avoid the accumulation of water/condensation inside the packing material.
- Never dispose of packing material in the environment.
- Once dismantled, the product should be conveniently disposed as provided for by the local laws; never dispose of in the environment.
- Whenever possible, re-cycling is preferable to disposal in dump sites.
- Before re-cycling check the nature of the various materials and re-cycle in the appropriate way.

## 安装工具

## Tools

### 安装工具

使用以下工具：

- 4 毫米、5 毫米与 6 毫米丁字形内六角扳手
- 螺丝刀（一字螺丝刀与十字螺丝刀）

驱动器出厂时已经过调整。无需在现场进行本说明手册中述及其他机械与电气调整。

Following tools are needed:

- "T"-handled hexagon keys 4 mm, 5 mm and 6 mm
- Screw drivers (flat and crossheaded)

The drive unit is preadjusted at the factory. No other mechanical and electrical adjustments other mentioned in this instruction are required at site!

## 交货

## Delivery

预先装配的成套驱动装置，只能存储在原包装内（塑料包装）。开始安装前，不得拆除零部件包装。

Complete preassembled drive unit. Only to be stored in the original package (plastic wrap). The components must not be unpacked until the installation begins.

## 1. 安装前的一般信息

### 1.1 产品说明与功能

ECO 轿门驱动器适用于轻型与中型电梯。驱动器可移动的最大门板重量为 130 公斤整套门。

## 1. General Information Prior to Installation

### 1.1 Description and function

ECO door drives are used for low and mid duty elevators. The Drive can move panel masses up to 130kg complete door package weight.

## 2. 电子控制器

## 2. Electronic Controller



插头说明:

- X1 - 输入
- X2 - 输出
- X3 - 变压器二次绕组
- X4 - 电机
- X5 - 电池电源
- X8 - 用于威特程序设计工具 (WPT) 的 RS485 接口
- X10 - 电机编码器
- X12 - 基准开关
- X15 - 光电管 (光幕) 接收器
- X16 - 光电管 (光幕) 发送器
- X40 - 测试驱动按钮

Plug description:

- X1 - Inputs
- X2 - Outputs
- X3 - Transformer secondary winding
- X4 - Motor
- X5 - Battery supply
- X8 - RS485 interface for WPT (Wittur Programming Tool)
- X10 - Motor encoder
- X12 - Reference switch
- X15 - Photo Cell (Curtain of light) Receiver
- X16 - Photo Cell (Curtain of light) Transmitter
- X40 - Test drive buttons



### 3. 调试

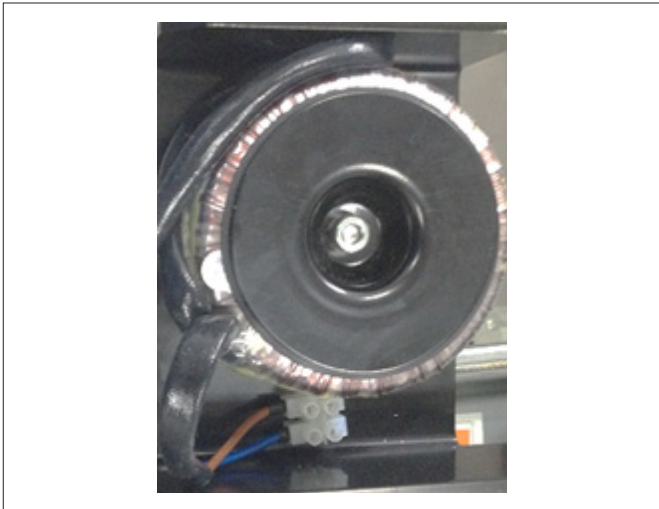
从工厂直接交付的门机已完成预调整。

#### 3.1 电源

- ECO 驱动器带有变压器装置，满足不同的电压范围，并提供 230 伏交流电压。
- 选择标称电压范围适用的保险丝，详见下表。

|               |                      |
|---------------|----------------------|
| 额定电压          | 230 VAC              |
| 自动熔断电流（在控制板上） | 1 A                  |
| 电缆最小横截面要求     | 0.75 mm <sup>2</sup> |

- 电源线连接到带螺栓式接线柱的插座



### 3. Commissioning

Door operators delivered directly from the factory are pre-adjusted.

#### 3.1 Power Supply

- The ECO-drive provides transformers for both different voltage ranges and can supply with 230VAC.
- Select the recommended fuse for the nominal voltage range, see table

|  |                      |
|--|----------------------|
| Nominal Supply Voltage Range           | 230 VAC              |
| Automatic fuse slow (in control panel) | 1 A                  |
| Minimum cable required                 | 0.75 mm <sup>2</sup> |

- Line in supply is connected to a socket with screw terminals



#### 3.1.1 紧急电源

|           |                     |
|-----------|---------------------|
| 电池电压      | 24VDC-4Ah           |
| 电缆最小横截面要求 | 1.5 mm <sup>2</sup> |

- 电池通过 X5 连接器供电。

注意事项：仅在第 3.1 节中所述的电源供电中断情况下，才能连入电池。



#### 3.1.1 Emergency supply

|                        |                     |
|------------------------|---------------------|
| Battery voltage        | 24VDC-4Ah           |
| Min. cable sq. measure | 1.5 mm <sup>2</sup> |

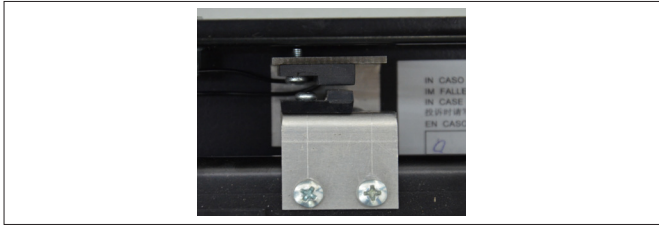
- The battery's supply takes place through the X5 connector.

Pay attention: the battery has to be connected only in case of absence of the supply indicated on point 3.1.



### 3.2 门参数的准备和学习

1. DIP 拨开关必须按照要求设定, 详见第七章 “DIP 开关”。
2. 调整基准开关, 使基准开关和电磁铁在门关着时是相对的 (开关与磁铁之间的间隙应当为 3 至 5 毫米)



3. 门处于闭合位置, 检查确定门刀是闭合的 (层门门锁开着)



现在, 手动推开门板, 再手动关闭, 门滑板必须接触橡胶缓冲垫。

4. 通过第 3.1 节中所述的 D1 端子接通电源。



通电后立即按下 “自学习” 按钮

5. 目前, 须通过测试驱动按钮驱动轿门向闭合方向运动。
6. 目前轿门接到指令可能往错误的方向运动。使用驱动轿门向闭合方向运动的测试驱动按钮, 驱动轿门运动直至门板完全闭合 (基准开关 LED 必须打开)
7. 若电机向错误的方向运转, 则电子器件会在 “基准开关” 关闭时纠正电机的运转方向, 重新启动新教学程序。



由于没有基准开关, 如有必要 (再点击 “教学” 按钮), 交叉电机电缆改变电机运转方向。

8. 在连续四个全门开关周期内 (状态 LED 关闭 --> 教学完成), 完成对轿门宽度的学习。



注意, 处于最终位置时会有一秒以上的指令, 电子器件有足够的时间测定机械最终位置。

9. 教学程序结束后会自动保存参数。

### 3.2 Preparation and learning of door parameters

1. DIP-Switch setting has to be copied from the replaced board, see chapter 7: “DIP-Switches”.
2. In case of need adjust the reference switch so, that switch and magnet are opposite one each other when the door panels are closed (clearance between switch and magnet should be 3-5mm).



3. Put the door panels to fully closed position. Check that the coupler is not opened (landing lock unlocked).



Open now by hands and without power supply the door panels pushing them always manually in close position. The door truck shall have to touch the rubber buffer.

4. Activate the alimentation through the D1 connector as indicated at par.3.1.



Press the LEARN button IMMEDIATELY after power up.

5. Now the door must be driven in close direction by Test Drive Button
6. The door might now run in wrong direction in respect to command. Use that test drive button which drives the door in close direction and drive until door panels are fully closed (REF SWITCH LED must be on).
7. If the motor is running in wrong direction the electronics rectifies the motor rotation direction when the “Ref Switch” is closed and a new learning procedure will re-start.



Is no reference switch available the direction of the motor rotation has to be changed by crossing the motor cables, if necessary (Press the LEARN button again).

8. Now the learning of door width is done during 4 consecutive full door width movement cycles (STATE LED off --> learning done).

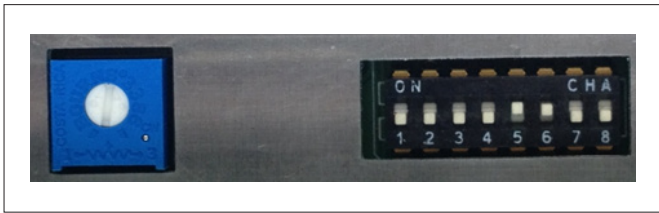


Take care, that the commands are available in end position for more than one second, that the electronic has time enough to detect the mechanical end position.

9. The parameters are stored automatically after learning procedure.

### 3.3 驱动配有电梯控制器的轿门

- 将电梯控制器发出的信号连接到门机X1和X2的连接器上。
- 参阅介绍电梯控制器与门机之间接线图的项目交付文件（详见第九章电路图）。



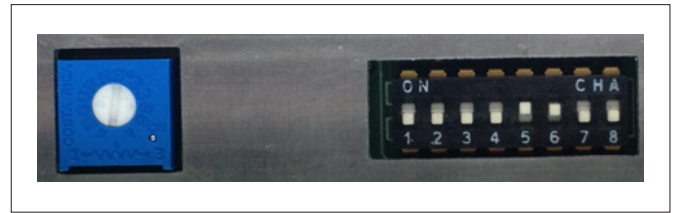
- 若轿门在通电时不在基准开关（靠近关闭端）且“关闭（CLOSE）”处于启动状态（连接 COMMON），只要找到基准（关闭端）位置便可缓慢移动轿门。
- 找到基准开关后，轿门驱动器将启动，发出下一个“打开（OPEN）”指令，驱动轿门在开门方向上按正常速度运动，直至找到机械终端。
- 然后，轿门将按正常速度向两个方向运动。
- 检查安全装置（打开按钮、光电管与关闭力限制器）重开轿门（详见 DIP- 开关说明）。
- 通过调 DIP- 拨开关（S1/2），轿门由电梯控制器重开或自动重开。

### 3.4 通过服务驱动按钮驱动轿门

- 检查当点击试验按钮时轿门的打开并关闭运动。
- 在该操作模式下，不会激活由安全装置重开轿门（能够调整关闭力）。

### 3.3 Driving the doors with the elevator controller

- Connect the signals from the elevator controller to connector X1 and X2 of the door operator.
- Refer to the project delivery documents for the wiring diagram between the elevator controller and door operator (see also circuit diagram in chapter 9).



- If the door is not at the reference switch (nearby close end) in power up and CLOSE is active (connected with COMMON) it will move at low speed as long as the reference (close end) position is found.
- After finding the reference switch the door drive will start with the next OPEN command in direction open with normal speed drive until the mechanical end is found.
- Then the door will drive with normal speed in both directions.
- Check that the safety devices (open button, photo cells and close force limiter) reopen the door (see DIP- switch description).
- According to the DIP-Switch adjustment (S1/2) the door is reopened by the elevator control or auto-matically by the door.

### 3.4 Driving the doors by the service drive buttons

- Check that the door is moving open and close when the test buttons are pressed.
- In this mode of operation the re-opening of the door by a safety device is not activated (enables the adjustment of the closing force).

## 4. 必要的调整

### 4.1 调整关闭力



调整太大的关闭力可能会对乘客造成重大伤害。可以在适用于您所在国家的规程中查找允许的最大力（欧洲电梯标准 EN81：最大力 150N）。

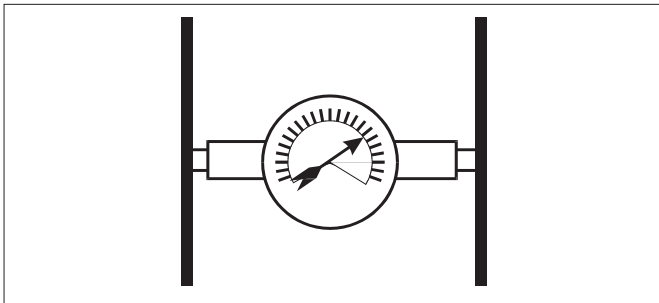


必须运用测力装置进行调整。



不要试图测量运动轿门的力，先让轿门停下，以免损坏测力装置！

- 人工打开并关闭轿门，检查是否存在机械性阻塞。
- 将测力装置置于门板之间（中分式轿门）或门板与门框立柱（旁开式轿门）之间。



对于中分式轿门而言，测力装置会显示一半的实际关闭力。而对于旁开式轿门，测力装置会显示实际关闭力。

- 通过关闭按钮（或关闭指令）驱动轿门向闭合方向运动。只有当试验按钮操作 DIP- 开关（S1/1）处于启动状态，试验按钮才会发挥作用。
- 关闭指令应用的时间应当少于 10 秒，继续调整程序前，暂时删除关闭指令。
- 运用电位计“关闭力”根据规程调整关闭力。顺时针转动电位计关闭力将升高。



### 4.2 调整速度

- 驱动电子器件可从（用于故障电梯或其他用途）四个不同的速度等级中选取一个速度等级。
- 参阅 DIP- 开关说明（第七章）

## 4. Adjustments Always to Be Done

### 4.1 Closing force adjustment



An adjustment of too high closing force may cause serious injury to passengers. The max. allowed force can be found in the code valid for your country (EN81: max. 150N).

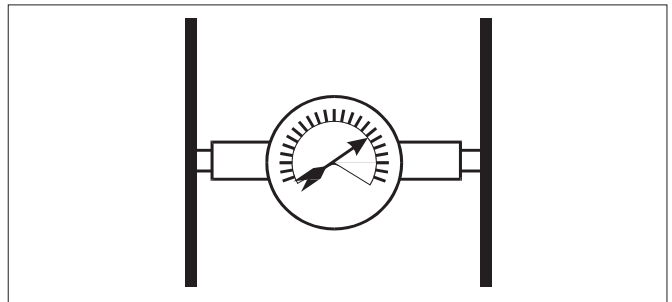


The adjustment must be done by use of a force measuring device.



Do not attempt to measure the force of a moving door, stop it first to avoid damage of the force measuring device!

- Open and close the door manually and check that there is no mechanical obstruction.
- Put a force measuring device between the door panels (center opening) or between door panel and slam post (side opening).



For centre opening the measuring device will show half of the actual close force. For side opening the measuring device will show the actual close force.

- Drive the door with the close button (or close command) to the close direction. The Test Buttons only function when the Test button operation DIP-Switch (S1/1) is ON.
- The close command should be applied for less than 10sec period's, than remove the close command for a short time, before continue the adjustment procedure.
- Adjust the closing force according codes using potentiometer CLOSE FORCE. The Closing Force will increase by turning the potentiometer clockwise!

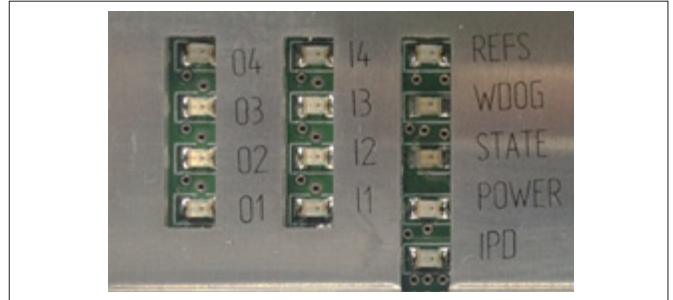
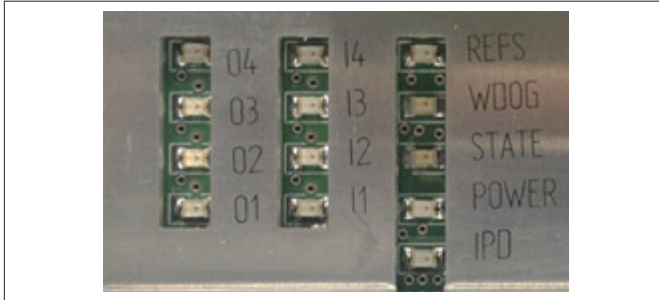


### 4.2 Adjustment of the speed

- The drive electronic offers to select one out of four different speed levels (for handicap elevators or other purpose).
- Look at DIP-SWITCHES description (chapter 7).

## 5. LED 说明

## 5. Description of LED's



### 5.1 LED 输入

### 5.1 LED's inputs

| 名称  | 在以下情况下 LED 灯会亮       |
|-----|----------------------|
| I1  | 输入 1 连接到 COM         |
| I2  | 输入 2 连接到 COM         |
| I3  | 输入 3 连接到 COM         |
| I4  | 输入 4 连接到 COM         |
| IPD | 输入乘客 - 保护装置 (光电管...) |

| Name | LED illuminated if                                  |
|------|---|
| I1   | Input 1 is connected to COM                         |
| I2   | Input 2 is connected to COM                         |
| I3   | Input 3 is connected to COM                         |
| I4   | Input 4 is connected to COM                         |
| IPD  | Input Passenger- Protection Device (Photo cell....) |

### 5.2 LED 输出

### 5.2 LED's outputs

| 名称 | 在以下情况下 LED 灯会亮 |
|----|----------------|
| O1 | 运行输出 1 继电器     |
| O2 | 运行输出 2 继电器     |
| O3 | 运行输出 3 继电器     |
| O4 | 运行输出 4 继电器     |

| Name | LED illuminated if         |
|------|----------------------------|
| O1   | Output 1 relay is operated |
| O2   | Output 2 relay is operated |
| O3   | Output 3 relay is operated |
| O4   | Output 4 relay is operated |

### 5.3 不同 LED 灯

### 5.3 Different LED's

| 名称    | 在以下情况下 LED 会亮起                             |
|-------|--|
| 功率    | 打开电源                                       |
| 监控器   | 微处理器不工作                                    |
| 状态    | 灯亮: 在启动与教学阶段亮起<br>闪烁: 若检测到一个错误<br>关闭: 正常操作 |
| REFSW | 轿门位于关闭端区域                                  |

| Name      | LED illuminated if   |
|-----------|--|
| Power     | The power supply is switched on  |
| Watch Dog | The microprocessor does not work   |
| Status    | Light: during start up and learning<br>Flashes: if an error is detected<br>Off: normal operation |
| REFSW     | The door is in close end area  |

## 6. 电气接口



## 6. Electrical Interfaces

### 6.1 输入

### 6.1 Inputs

若输入切换到 COM，则处于启动状态。

The Inputs are activated if they are switched at COM.

| 终端<br>Terminal | 符号<br>Symbol  | 终端<br>Name of the terminal | 说明<br>Explanation   |
|----------------|---|----------------------------|---|
| COM            | COM   | COMMON                     | COMMON line for I1...4 (I1...4 公用线)   |
| I1             |  | DT-0<br>打开<br>OPEN         | 该指令将驱动轿门向打开方向运动，直至轿门打开。设置 DIP- 开关 S1/8，轿门通过电机力矩在无指令情况下保持打开状态。<br>This command will drive the door in open direction until the open position is reached. Depending on the setting of DIP-Switch S1/8 the door is kept open by motor torque also without command.         |
| I2             |  | DT-S<br>关门<br>CLOSE        | 该指令将驱动轿门向闭合方向运动，直至达到闭合位置并启动耦合器。设置 DIP- 开关 S1/8，轿门通过电机力矩在无指令情况下保持闭合状态。<br>This command will drive the door in open direction until the open position is reached. Depending on the setting of DIP-Switch S1/8 the door is kept open by motor torque also without command. |
| I3             | NDG   | RVRT-S<br>强迫关门<br>NUDGING  | 强迫关门输入，驱动轿门向闭合方向低速运动，会忽略光电管或光栅（输入 IPD）等烟感装置。<br>Nudging input, puts the door to slow speed drive in close direction. Smoke sensitive devices like photo cell or light barrier (Input IPD) will be ignored.  |
| I4             | SD  | 检修<br>INSPECTION           | 通过设置该输入，测试按钮选项被激活。X1 端口的输入被终止，与 DIP- 开关 S1/1 的功能相同。<br>By setting this input the test button operation is activated. The command inputs at X1 are inactivated, same function as DIP switch S1/1.  |

### 6.2 乘客保护装置输入与电源

### 6.2 Passenger protection device input and supply

若置于 GND，则启动输入。

The Input is activated if put at GND.



| 终端<br>Terminal | 符号<br>Symbol | 终端<br>Name of the terminal | 说明<br>Explanation   |
|----------------|--------------|----------------------------|---|
| +24V           | PH+          | +24V                       | 为光电管或光幕提供 +24 伏直流电（最大 150mA）<br>+24V DC supply for photo cell or curtain of light (max. 150mA)                        |
| IPD            | REV          | 光电管<br>PHOTO CELL          | 光电管或光幕，光栅或其他乘客保护装置的输入<br>Input for Photo Cell or curtain of light, light barrier or other passenger protection device |
| GND            | PH-          | 接地<br>GND                  | 光电管或光幕（光栅）电源的接地<br>Ground for supply of photo cell or curtain of light (light barrier)                                |
| N.C.           | L            |                            |   |

### 6.3 输出

输出为触点的三个连接向端子供电位置的继电器。  
(01 至 04: 公共端 = COM, 常开触点 = NO, 常闭触点 = NC)

### 6.3 Outputs

The outputs are relays where the 3 connections of the contacts are feed to the terminals.  
(01 to 04: COMMON = COM, normally open contact = NO, normally close contact = NC)

| 终端<br>Terminal | 符号<br>Symbol  | 名称<br>Name of the terminal | 说明<br>Explanation  |
|----------------|---|----------------------------|--|
| 01             |  | 开门到位<br>OPEN END           | 开门到位输出信号表示门已完全打开。<br>The open end output indicates the fully open position of door panels.   |
| 02             |  | 关门到位<br>CLOSE END          | 关门到位输出信号表示门已完全关闭。<br>The close end output indicates the fully closed position of door panels.  |
| 03             | REV   | 重开门<br>REOPEN              | 重开门输出信号表示, 正在执行来自光电装置或关门力限制器的重开门请求, 或还在执行自动重开门。<br>The reopen output indicates if a reopen request, coming from photo cell or close force limiter is pending or an automatic reopen is done.   |
| 04*            | POS   | 位置<br>POSITION             | 当开门宽度超过规定位置时发出此输出信号 (可通过威特编程工具WPT调整触发点, 此输出通常不用。)<br>*通过设置参数集E, 在磁开关处于关门位置区域中输出信号O4, 满足(EN81-20)标准。<br>This Output shows the reference switch signal. Output is On in Referenceswitch area. (The value could be modified by WPT, but the output usually not used)<br>*With Parameter set E (EN81-20) the output O4 is set in reference area. |

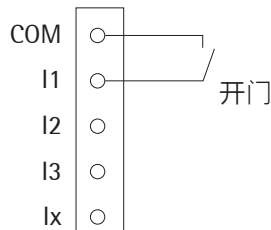
## 7. DIP- 开关

## 7. DIP-switches

|              | 打开<br>ON  | 关闭<br>OFF   |
|--------------|---|---|
| S1/1         | 测试按钮操作 (测试按钮有效)<br>Test Button operation (buttons active)   | 正常运行 (X1 端子上的输入命令有效)<br>Normal operation (command inputs on X1 active)          |
| S1/2<br>**** | 关门受阻或 IPD 输入断开时自动重开门 (切换到重开 O3)<br>Automatic reopen on obstruction or IPD (Reopen O3 is switched) | 不自动重开门 (只给出重开门输出信号 O3)<br>No automatic reopen (only Reopen O3 is switched)      |
| S1/3**       | 电靴运行模式 (转动门模式) (*)<br>Electric shoe operation (swing door mode)(*)                                | 正常操作 (X1 端子上的输入命令有效)<br>Normal operation (command inputs on X1 active)          |
| S1/4         | 未使用<br>Not used   |   |
| S1/5         | 速度选择开关, 二进制编码, 参见下图<br>Speed selection, binary coded, see figure                                  |   |
| S1/6         |   |   |
| S1/7****     | 开门力限制生效<br>Open force limitation active   | 无开门力限制<br>No open force limitation  |
| S1/8***      | 自动保持在开 / 关门状态<br>Automatic end keeping  | 只在启动打开 / 关闭指令时, 保持打开 / 关闭<br>Hold open/closed only on active open/close command |

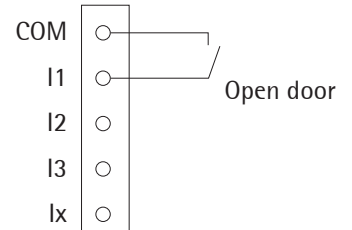
(\*) 模式 1:

I1 = ON -> 开门  
I1 = OFF -> 关门



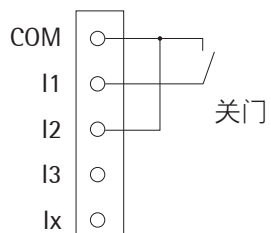
(\*) Mode 1:

I1 = ON -> door opens  
I1 = OFF -> door closes



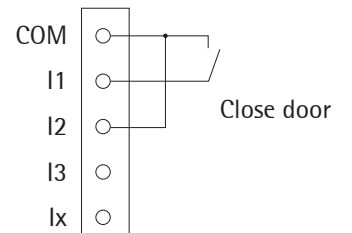
(\*) 模式 2:

I1 = ON -> 关门  
I1 = OFF -> 开门



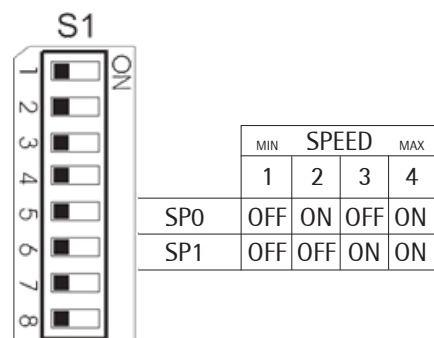
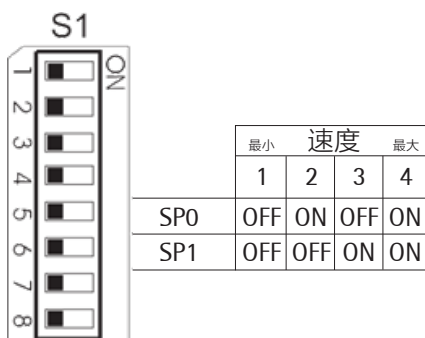
(\*) Mode 2:

I1 = ON -> door closes  
I1 = OFF -> door opens



调节速度

Speed adjustment





- \* 为符合EN81-20（第5.3.15.1部分），开关S1/3必须为OFF（关）
- \*\* 为符合EN81-20（第5.3.15.1部分），开关S1/8必须为OFF（关）
- \*\*\* 为符合EN81-20（第5.3.6.2.2.1部分，仅玻璃门），开关S1/7必须为ON（开）
- \*\*\*\* 在自动重开/重关门的情况下，如果检测到障碍物，则设置输出信号O3，并在重开/重关门后关闭。在没有自动重开/重关门的情况下，如果检测到障碍物，输出信号O3接通，如果移除了障碍物或从电梯控制器应用重开/重关门命令，则该输出信号关闭。

## 8. 故障排除

当状态 LED 灯闪烁不停时，表示存在故障。可通过威特编程工具 WPT 读取故障。

### 8.1 门不动作

#### 8.1.1 门停止不动

- 检查是否通电。如果电源插头 D1 是接通的，而且电梯控制柜中的断路器是通的，则电源指示灯 (Power H80) 必须亮起。
- 检查 WATCHDOG LED H20，若 WATCHDOG LED H20 亮或闪烁不停，则切换“(OFF/ON)”或更换主板。
- 检查电机与编码器的接线是否正确（插头 X4 与 X10）且电机不过热（ $\leq 60^{\circ}\text{C}$ ）。
- 检查控制框是否发送开门或关门指令（I1-I2/X1, Led I1, I2）。
- 检查手动关门时，摩擦力是否太大。若状态指示灯闪烁，则用威特编程工具 WPT 读取故障。切换 OFF/ON 或更换主板。
- 检查是否关闭开启力限制（S 1/7 OFF）。

#### 8.1.2 门无法打开

- 输入开门命令（I1/X1 低电平），检查确定开门命令指示灯 I1 亮。
- 检查确定关门指示灯 LED I2 不亮（I2/X1 高电平）。关门命令优先于开门命令。
- 检查确定层门门锁没有卡住。
- 检查开启力限制是否启用（S 1/7 ON），是否摩擦力太大。

#### 8.1.3 门无法关闭

- 检查确定关门命令指示灯 I2 亮，或输入 I2/X1 接通公共端。
- 或许关门力太低（或摩擦力太高）。慢慢地顺时针转动关闭力电位器以增大关门力，但必须注意不要超过最大允许关门力！

#### 8.1.4 门不能完全打开或关闭

- 检查开门或关门信号（指示灯 I1, I2）的时间是否够长。门只在开、关门命令有效时动作。

## 8. Trouble Shooting

There is a fault if the State LED is blinking. The faults can be read by WPT.

### 8.1 The door does not move

#### 8.1.1 The door does not move at all

- Check that the power is ON. The POWER LED H80 must light up if D1 is connected and the circuit breaker in the elevator control panel is ON
- Check WATCHDOG LED H20, switch OFF/ON or replace board in case it lights up.
- Check that the motor and encoder wires are connected correctly (plug X4 and X10) and the motor is not overheated ( $\leq 60^{\circ}\text{C}$ ).
- Check that the control panel is sending an Open or Close command (I1-I2/X1, Led I1, I2).
- Check if there is too high friction if door is moved manually. If the state LED flashes read the faults by using WPT, switch ON/OFF or replace board in case it flashes.
- Check if the open force limitation is deactivated (S 1/7 OFF).

#### 8.1.2 The door does not open

- Check that the OPEN command LED I1 lights up when an open command is present (I1/X1 low).
- Check that the CLOSE command LED I2 does not light up (I2/X1 not low). A close command overrides the open command.
- Check that the landing door lock is not jammed.
- Check if the open force limitation is active (S 1/7 ON) and the friction is too high.

#### 8.1.3 The door does not close

- Check that the CLOSE command LED I2 lights up or the Input I2/X1 is switched on COM.
- The closing force may be too low (or friction too high). Turn CLOSE FORCE potentiometer slightly clockwise to increase the closing force, but watch the maximum allowed force!

#### 8.1.4 The door only partly opens or closes

- Check that the open and close signal times (LEDs I1, I2) from the elevator controller are long enough. The door moves only as long as command is set.

## 8.2 门无法重开

- 如果没有选择自动重开门功能 (DIP 开关 S1/2 是关断的):  
电梯控制柜必须接收发自门控系统电路或独立接线的  
安全电路 (例如, 光电管或光幕) 的重开门请求, 才能进  
行重开门。

要执行重开门, 电梯控制柜必须取消关门命令, 并重启  
开门命令。

- 如果选择了自动重开门 (DIP 开关 S1/2 是开通的):  
IPD 输入或关门力限信号可以直接启动自动重开门过程。



检查下列重开门装置:

- 光电装置或光幕 (是否损坏或脏了)
- 关门力限制器 (关闭力是滞太大)

## 8.3 引起复位或关断的故障 (状态指示灯闪烁)

- 供电电路短路
- 电机或编码器短路、开路或 / 或信号丢失
- 电路内部故障
- 欠压 (测量供电电压, 如电压太低, 电源会关断。)
- 基准开关故障
- 未发现终端位置 ( $\geq 5\text{m}$ )
- 门被卡住

## 8.4 降低门工作性能的故障

- 电机或电源部分温度太高, 电机功率降低。如果温度超  
过极限值, 电源会被切断一段时间。
- 低压 (如电池) 驱动或电源供电电压低。

## 8.2 The door does not reopen

- If no automatically Re-open is selected (DIP Switch S1/2 is OFF):  
- To reopen the door, the elevator controller must receive  
either a reopen request signal from the door electronics  
(REOPEN) or from an independently wired safety device (e.g.  
Photocell or Curtain of Light).

- For reopening the elevator controller must remove the close  
command and activate the open command

- If automatic Re-open is selected (DIP Switch S1/2 is ON):  
- An automatic Re-open process is caused by the Input IPD or  
by the closing force limiter.



Check the following reopen devices

- Photocell or light cell (defect or dirty).
- Closing force limiter (force too high).

## 8.3 Faults causing reset or switch off (STATE LED is blinking)

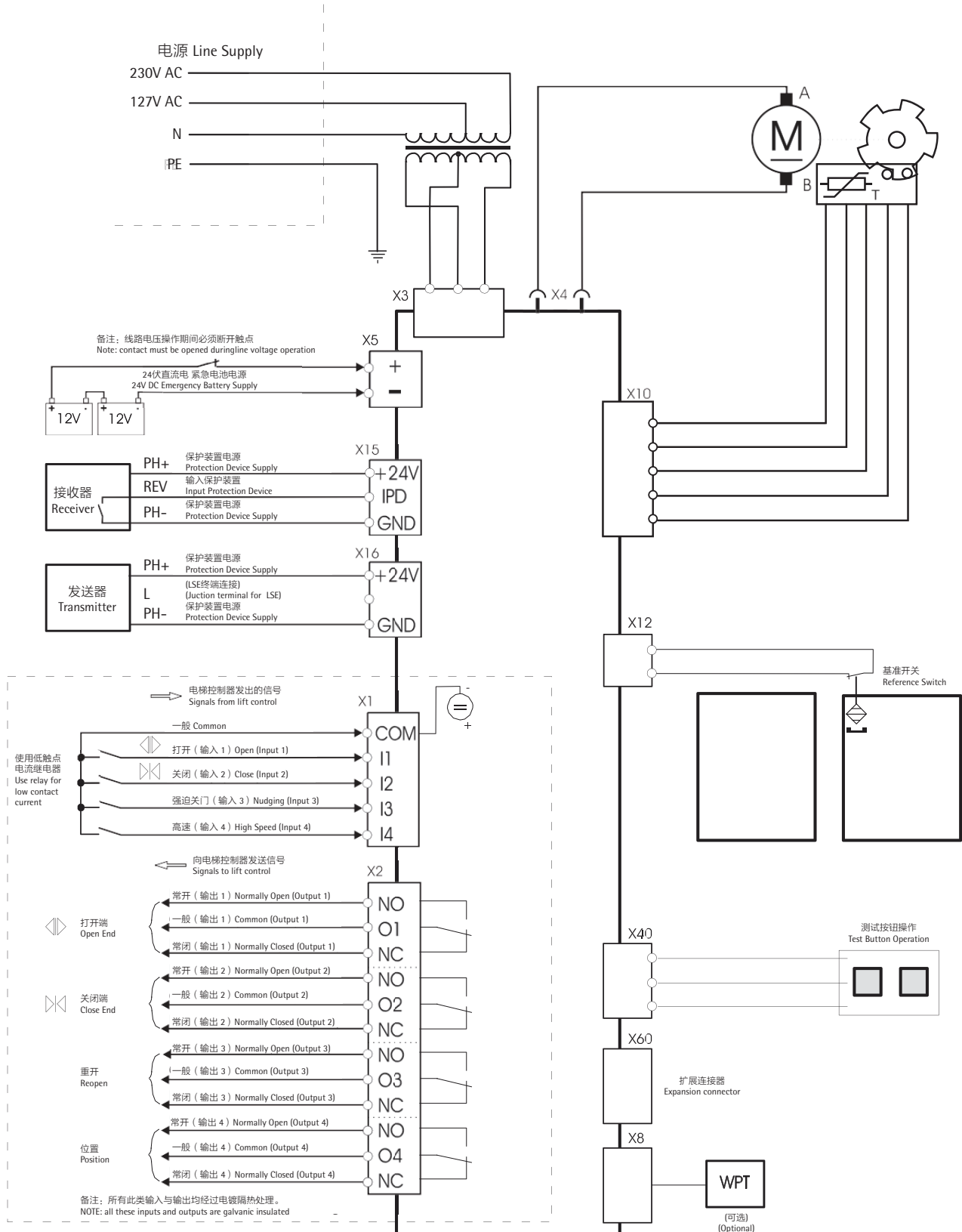
- Power stage short circuit
- Motor or encoder short circuit, open wires and/or missing signals.
- Internal electronic fault
- Under-voltage (supply voltage is measured and the power  
stage switches off if the voltage is too low).
- Reference switch faulty
- Mechanical end not found ( $\geq 5\text{m}$ ).
- Door mechanically blocked.

## 8.4 Faults decreasing performance of door

- Motor and/or power stage temperature too high. The  
software reduces the power of the motor (power stage). If  
temperature is nevertheless exceeding a higher limit, power  
stage is shut down for cooling down a certain time.
- Low voltage supply like battery drive or low line voltage supply.

### 9. Augusta ECO 驱动器电路图

### 9. Circuit Diagram Augusta ECO Drive



## 10. 威特编程工具接口软件描述

## 10. Wittur Programming Tool Interface Software Description

适用于“WHD ECO Vx.x, dd.mm.jjjj”以上版本的软件更新

Valid for software revision starting from „WHD ECO Vx.x, dd.mm.jjjj“

### 10.1 简介

### 10.1 Introduction

ECO 门机电路配有一个串行通讯接口 RS 485，用来观察和修改其所存储的数据。一些数据（例如速度）存储在永久性存储器中，断电后也不会丢失，这种存储叫做 EEPROM。威特编程工具的使用请参阅其操作说明书（D276Mxx）。

The ECO-electronic is equipped with a serial communication interface RS 485 to watch/modify data stored in the electronic. Some data (for example the speed values) are stored in a memory which is independent from power supply, this memory is called EEPROM. For use of the Wittur programming Tool see Operating instructions D276Mxx.



错误的调整可能损坏门机构。



Wrong adjustments may damage the door mechanic.

### 10.2 将威特编程工具连接到 ECO 门机电路

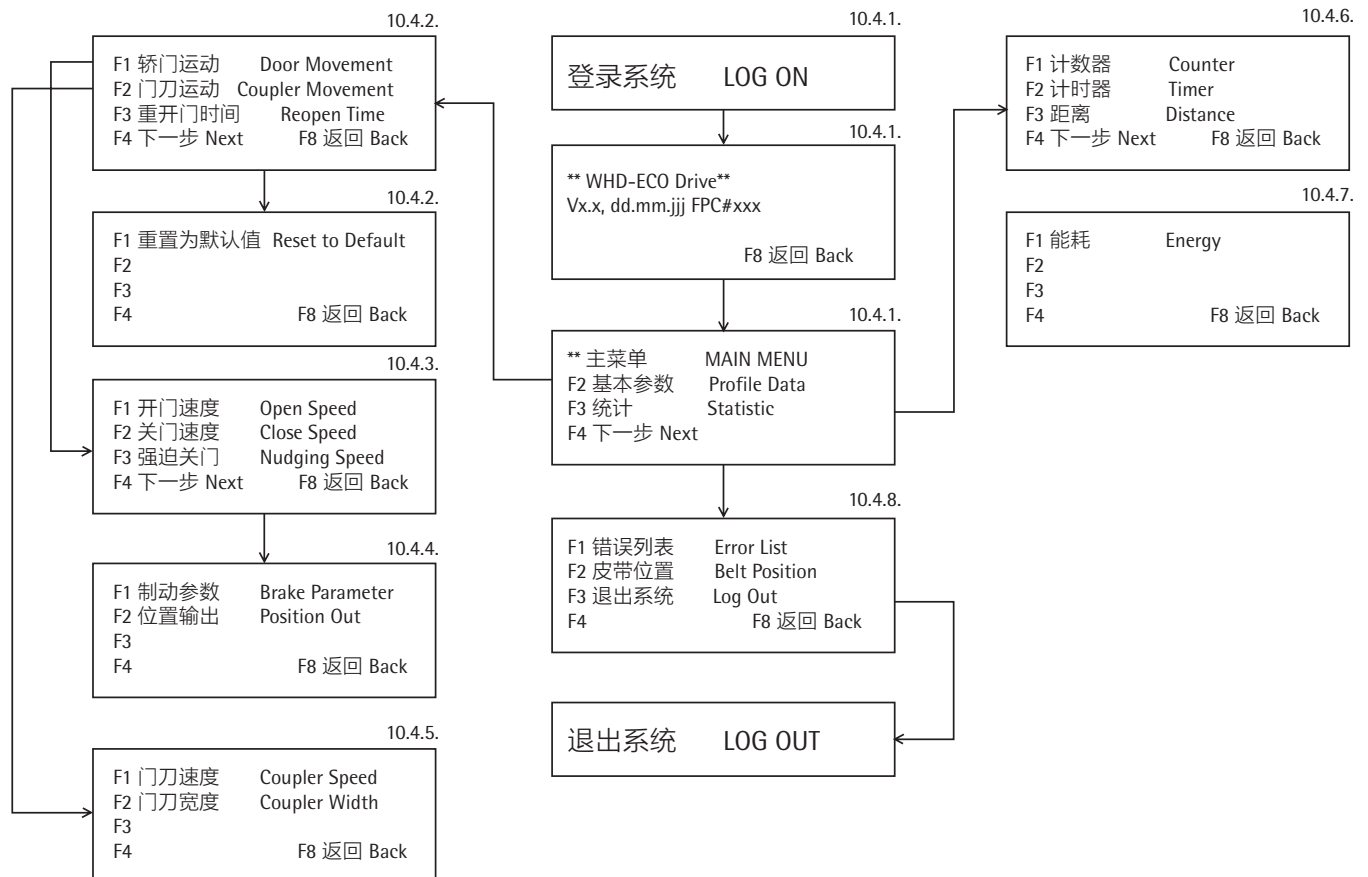
### 10.2 Connecting the Wittur Programming Tool to the ECO-electronic

编程工具可以通过插头 X8 直接连接到 ECO 门机电路，不需要其它连接。连接前，请把编程工具关闭。

The Programming Tool can be connected directly to the ECO board at the plug X8, there are no further adjustments necessary. Switch off the WPT before connecting to door drive.

### 10.3 编程工具的菜单结构

### 10.3 Menu structure of Programming Tool



## 10.4 通过编程工具进行调试

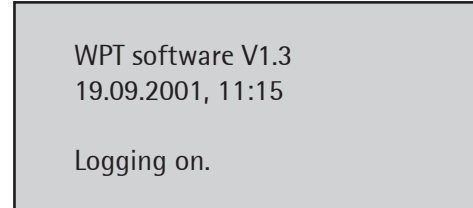
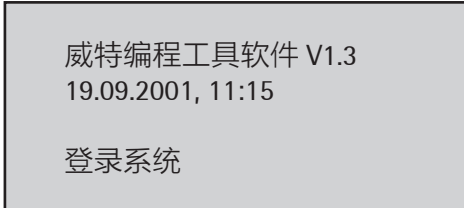
## 10.4 Door Adjustment with the Programming Tool

### 10.4.1 登录编程工具

### 10.4.1 Login of the programming tool

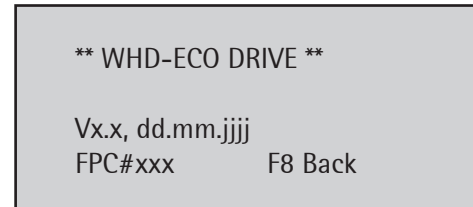
- 点击“ON”按钮2秒以上，直到登录信息出现。

- Press the 'ON'-button longer than 2 seconds until you can see the Log-in Display.



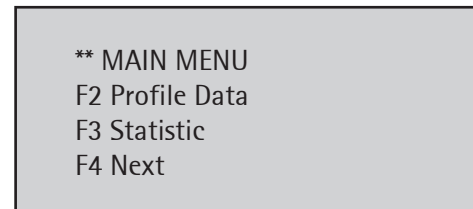
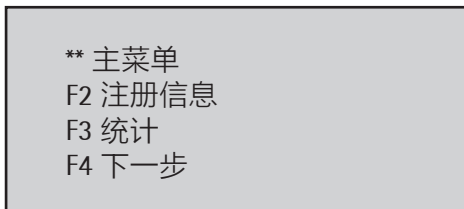
- 然后屏幕上显示驱动软件版本号和日期

- The screen after power on login shows the door drive software revision and date.



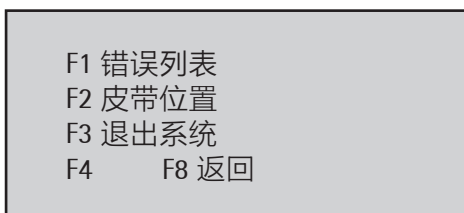
- 按 'F8' 后显示初始菜单

- After pressing 'F8' the initial menu screen appears.



- 按 'F1' 至 'F3' 选择一个菜单项目，或者按 'F4' 查看屏幕信息。

- Press 'F1' to 'F3' to select one of the menu items or use 'F4' to view additional screens



- 点击 'F8' 返回上一次显示的屏幕。

- 'F8' jumps back to last screen.

#### 10.4.2 'F2': 曲线数据

F1 门运动  
F2 门刀运动  
F3 重开时间  
F4 下一步 F8 返回

通过此菜单可以调出两个子菜单, 'F1' 门运动 (10.4.3) 与 'F2' 门刀运动 (10.4.5)。

##### 10.4.2.1 'F3': 重开门时间

重开门时间是重开门到位后的等待时间, 在这时间过后才能再次关门。

按 'F3', 可以查看和修改重开门时间参数。

重开门时间 :  
0000.0 s  
  
输入 Ch. F8 返回

通过数字键输入新的数值, 然后按 ENTER 键。新值被缓冲存储器接收, 并执行

重开门时间 :  
0001.5 s  
  
输入 Ch. F8 返回

按 'F8' 可以退出此菜单。退出前会问你要不要永久存储此值。

使用已变更的值 ?  
  
是 / 否 F8 返回

点击“是 / 否”键, 可以接收或拒绝此值。

#### 10.4.2 'F2': Profile Data

F1 Door Movement  
F2 Coupler Movement  
F3 Reopen Time  
F4 Next F8 Back

This menu allows you to call up 2 further cascading menus: 'F1' Door Movement (10.4.3) und 'F2' Coupler Movement (10.4.5).

##### 10.4.2.1 'F3': Reopen Time

Reopen Time is the waiting period after the re-open in open end, before the door close again. By pressing 'F3' the parameter Reopen Time can be watched and changed.

Reopen Time:  
0000.0 s  
  
ENTER Ch. F8 Bac

To enter a new value press the number keys, after that press 'ENTER'. This value is taken over in a buffer and carried out.

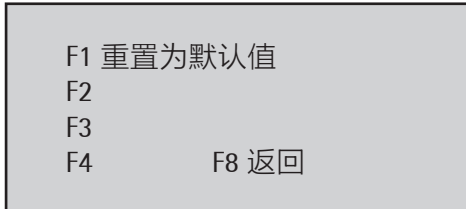
Reopen Time:  
0001.5 s  
  
ENTER Ch. F8 Bac

By leaving this menu with 'F8' you will be asked if the entered value shall be stored permanently to the memory.

Use changed Value?  
  
YES/NO F8 Back

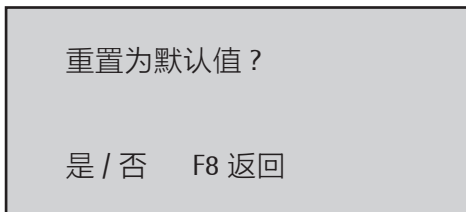
By pressing the keys 'YES' / 'NO' the value can be used / rejected.

#### 10.4.2.2 'F4': 下一步 (曲线数据)



按 'F1' 键, 可以把门参数重新设置为初始默认值。

#### 10.4.2.3 'F1': 重置默认值

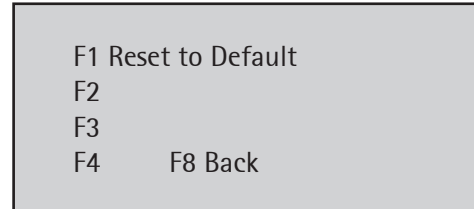


按“是”键将把所有工厂调整过的参数清除掉, 重新设置为默认值。

在重设为默认值前, 必须遵照第 3.3 第 3-4 节的要求 (手动关门, 保持门刀闭合! )。

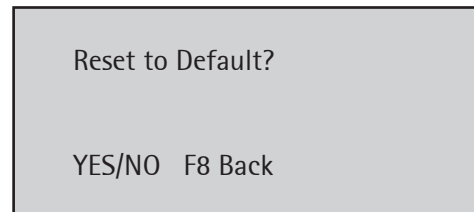
默认值重新设置之后, 按照第 3.3 条第 6-10 节操作。

#### 10.4.2.2 'F4': Next (Profile Data)



The door parameter are re-set to its initial value by pressing the button 'F1'.

#### 10.4.2.3 'F1': Reset to Default



By pressing the 'YES' button all the factory adjusted parameters are cleared and overwritten by default values.

Before resetting the door electronic to default values the two items 3.3, clause 3 and 4 must be followed (manual closing of door panels without opening of coupler!).

After the "Reset to Default" is done, continue the start-up procedure like described in item 3.3 clause 6 to 10

### 10.4.3 'F1': 门运动

F1 开门速度  
F2 关门速度  
F3 强迫关门速度  
F4 下一步 F8 返回

在此菜单下通过按相应的功能键可以查看和更改下述各章节的参数值。

如何输入数值，参阅 10.4.2.1。

所有可变参数都存储在 EEPROM 中。通过设定 1-3 的参数值可以根据速度设计 4 的数值乘以固定常数计算得到（详见第 11 章）。

#### 10.4.3.1 'F1 开门速度' - 开门速度

最大开门速度：速度设定 4

#### 10.4.3.2 'F2 关门速度' - 关门速度

最大关门速度：速度设定 4

#### 10.4.3.3 'F3 强迫关门速度' - 强迫关门速度

最大强迫关门速度：速度设定 4

### 10.4.4 'F4': 下一步（门运动）

F1 制动参数  
F2 错位  
F3  
F4 F8 返回

在此菜单下通过按相应的功能键可以查看和更改下述各章节的参数值。

关于如何输入数值，参阅 10.4.2.1。

所有可变参数都存储在 EEPROM 中。

#### 10.4.4.1 '制动参数'

此参数可以影响到制动延时和开/关门到位前的爬行时间。预设值是“5”，调整的范围是'0'...'9'，设定为'0'时，制动最快，设定为'9'时，制动最慢。

#### 10.4.4.2 继电器输出

通过此参数可以把位置继电器设置在任意门位置动作。标准设定为 0（即不启用）。

### 10.4.3 'F1': Door Movement

F1 Open Speed  
F2 Close Speed  
F3 Nudging Speed  
F4 Next F8 Back

This menu allows you to watch/modify values described in the following chapters by pressing the corresponding function key.

See chapter 10.4.2.1 how to enter values.

All these variables are stored in the EEPROM. Speed values for speed setting 1-3 are calculated from values of speed setting 4 by multiplying with fix constants (see chapter 11).

#### 10.4.3.1 'F1 Open speed' - Open speed

Top speed for open movement; speed setting 4.

#### 10.4.3.2 'F2 Close speed' - Close speed

Top speed for close movement; speed setting 4.

#### 10.4.3.3 'F3 Nudging speed' - Close speed for nudging

Top speed for close movement with nudging command; speed setting 4.

### 10.4.4 'F4': Next (Door Movement)

F1 Brake Parameter  
F2 Position Out  
F3  
F4 F8 Back

This menu allows you to watch/modify values described in the following chapters by pressing the corresponding function key.

See chapter 10.4.2.1 how to enter values.

This value is stored in the EEPROM.

#### 10.4.4.1 'Brake Parameter'

Because of the adjustment of this parameter the delay and creep to the open / close end is influenced (pre-adjusted at '5'). The possible adjustment is '0'...'9', but the earliest brake is reached with parameter '0' and the latest delay is reached with parameter '9'.

#### 10.4.4.2 'Position Out' Relay output

By entering this parameter the Position relay can be adjusted to switch at any door position. Standard adjustment is 0 (deactivated).



#### 10.4.5 'F2': 门刀运行

F1 门刀速度  
F2 门刀宽度  
F3  
F4 F8 返回

在此菜单下通过按相应的功能键可以查看和更改下述各节的参数值。

如何输入数值，参阅 10.4.2.1。

所有可变参数都存储在 EEPROM 中。

##### 10.4.5.1 'F1 门刀速度'

此参数用来调整最大门刀速度。开门和关门过程中参数相同。

##### 10.4.5.2 'F2 门刀宽度'

此参数设置门刀动作距离，在此位置，皮带开始驱动门刀，但不带动门板。



如果此参数值更改了，必须按自学习按钮进行自学习，之后门才能正常运动。

#### 10.4.6 'F3': 统计

F1 计数器  
F2 计时器  
F3 距离  
F4 下一步 F8 返回

在此菜单下通过按相应的功能键可以查看和更改下述各节的参数值。

##### 10.4.6.1 'F1 计数器'

计数器显示门运行次数。

##### 10.4.6.2 'F2 计时器'

计时器显示门电路开通时间。

##### 10.4.6.3 'F3 距离'

此计数器显示驱动皮带的绝对运行距离（不包括门刀运动），单位：米。

#### 10.4.5 'F2': Coupler Movement

F1 Coupler Speed  
F2 Coupler Width  
F3  
F4 F8 Back

This menu allows you to watch/modify values described in the following chapters by pressing the corresponding function key.

How to enter values see in chapter 10.4.2.1

This value is stored in the EEPROM.

##### 10.4.5.1 'F1 Coupler Speed'

Adjustment of the maximum speed in the coupler area. It is the same for open and close.

##### 10.4.5.2 'F2 Coupler Width'

The parameter coupler width shows the distance which the belt is moving in close end without moving the door panels.



If this value is changed the door is stopped until the learn button is pressed!

#### 10.4.6 'F3': Statistic

F1 Counter  
F2 Timer  
F3 Distance  
F4 Next F8 Back

This menu allows you to watch values described in the following chapters by pressing the corresponding function key.

##### 10.4.6.1 'F1 Counter'

This counter shows the number of the driven door cycles.

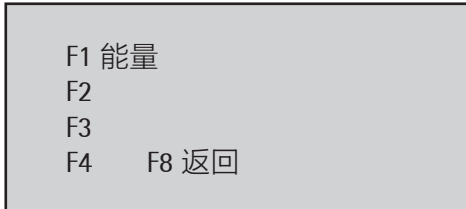
##### 10.4.6.2 'F2 Timer'

This counter shows the power-on time of the door electronic.

##### 10.4.6.3 'F3 Distance'

This counter measures the absolute movement of the drive belt in meter, but not the coupler movement.

#### 10.4.7 'F4': 下一步 (统计)

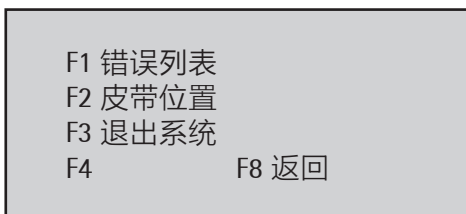


在此菜单下通过按相应的功能键可以查看和更改下述各节的参数值。

##### 10.4.7.1 'F1 能量'

此计数器用于记录门驱动系统的电量, (单位: KWh 度)。

#### 10.4.8 'F4': 下一步 (主菜单)



在此菜单下通过按相应的功能键可以查看和更改下述各节的参数值。

##### 10.4.8.1 'F1 故障清单'

故障都以数字或字母表示。点击 F5 可以删除故障清单。

可能出现的故障如下:

'EC': 编码器故障

'EE': EEPROM 读写出错

'OC': 过电流

'RS': 基准开关损坏

'IE': 内部软件故障

'AP': 位置计数器故障, 门宽度 >5m

'TS': 温度传感器损坏

'NE': 编码器未连接

'CF': 关闭力电位器故障

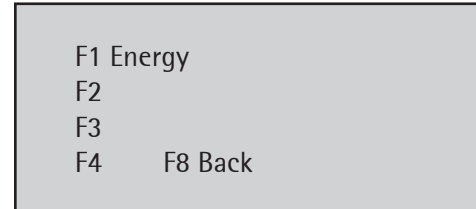
'ME': 电机或编码器故障

'SS': 静止故障, 门被卡住

'TH': 电子器件或电机温度太高

'FE': 手动更改门刀参数时发出此信息

#### 10.4.7 'F4': Next (Statistic)



This menu allows you to watch values described in the following chapters by pressing the corresponding function key.

##### 10.4.7.1 'F1 Energy'

This counter counts the electric power feed to the drive in KWh.

#### 10.4.8 'F4': Next (Main Menu)



This menu allows you to watch values described in the following chapters by pressing the corresponding function key.

##### 10.4.8.1 'F1 Error List'

Errors are coded with numbers or letters. The Error List can be deleted with the key 'F5'.

Possible Faults are:

'EC': Fault by Encoder

'EE': Eprom writing or reading fault

'OC': Over current

'RS': Faulty reference switch

'IE': Internal software fault

'AP': Fault by positon counter, door width > 5m

'TS': Faulty temperature sensor

'NE': Encoder not connected

'CF': Closing force potentiometer defect

'ME': Fault by motor or encoder

'SS': Standstill fault, door is blocked

'TH': Temperature of the electronic or motor too high

'FE': Is set during manual change of coupler movement parameter.

#### 10.4.8.2 'F2 皮带位置'

皮带的实际位置，正 - 门板打开（即门板位置），负 - 门刀区。

#### 10.4.8.3 'F3 退出系统'

按 F3 终止门机驱动器和编程工具之间的通讯，关闭编程工具。

#### 10.4.8.2 'F2 Belt Position'

Actual position of the belt, positive- door panels open (then it is the door panel position), negative - coupler area

#### 10.4.8.3 'F3 Log Out'

By pressing F3 the communication between door drive and WPT is stopped and the WITTUR Programming Tool switches off.

### 11. ECO 软件默认设定

最大关门速度（强迫关门速度）必须符合标准规定。EN81 规定关门能量极限值是 E=10J（强迫关门 E=4J），根据如下公式计算。

$$E = \frac{m_{\text{equ}} * v_{\text{belt}}^2}{2}$$

由于不同的门板速度（例如，折叠门），质量  $m_{\text{equ}}$  必须根据皮带上标明的实际质量计算。

$$m_{\text{equ}} = m_{\text{antr}} + \text{sum of } (m_{\text{panel}} * (v_{\text{panel}} / v_{\text{belt}})^2)$$

$m_{\text{antr}}$  门机实际质量

$m_{\text{panel}}$  门板质量

$v_{\text{panel}}$  门板速度

$v_{\text{belt}}$  皮带速度

门机质量约为 10 公斤，包括电机、上坎和门刀。

下表是不同速度设定的默认参数值。关门速度和强迫关门速度根据 EN81 对能量的规定而计算得到的（最大质量 =  $m_{\text{equ}}$ ）

| 速度设置<br>(根据 EN81) | 最大质量<br>[千克] | 开门速度<br>[米/秒] | 闭门速度<br>[米/秒] | 强迫关门速度<br>[米/秒] |
|-------------------|--------------|---------------|---------------|-----------------|
| 1                 | 130          | 0.25          | 0.2           | 0.12            |
| 2                 | 130          | 0.33          | 0.26          | 0.17            |
| 3                 | 130          | 0.42          | 0.33          | 0.21            |
| 4                 | 130          | 0.5           | 0.39          | 0.25            |

最大速度设定以质量  $m_{\text{equ}}$  为 130 公斤计算得到。关门速度和强迫关门速度分别符合规定的能量极限 10J 和 4J。

开、关门时间还取决于下列因素：

- 门质量
- 摩擦力
- 机械设定
- 层门的对准
- 用户接口 SW 参数

### 11. Default Adjustment of ECO Software

The max. closing (nudging) speed must always be set according codes. EN81 requires the energy limit of E=10J for closing (E = 4J for nudging), this must be calculated by the formula:

$$E = \frac{m_{\text{equ}} * v_{\text{belt}}^2}{2}$$

Because of the different speeds of door panels (e.g. for telescopic doors) the mass  $m_{\text{equ}}$  has to be calculated as virtual mass seen from belt.

$$m_{\text{equ}} = m_{\text{antr}} + \text{sum of } (m_{\text{panel}} * (v_{\text{panel}} / v_{\text{belt}})^2)$$

$m_{\text{antr}}$  virtual mass of operator

$m_{\text{panel}}$  mass of the panel

$v_{\text{panel}}$  speed of the panel

$v_{\text{belt}}$  speed of the belt

The operator mass  $m_{\text{operator}}$  is about 10kg including motor, hanger plate and coupler.

The table below shows the default parameters for different speed settings. Close and nudging speeds are calculated according EN81 energy limitation (Max. mass =  $m_{\text{equ}}$ ).

| Speed Settings<br>(acc. EN81) | Max. Mass<br>[kg] | Open Speed<br>[m/s] | Close Speed<br>[m/s] | Nudging Speed<br>[m/s] |
|-------------------------------|-------------------|---------------------|----------------------|------------------------|
| 1                             | 130               | 0.25                | 0.2                  | 0.12                   |
| 2                             | 130               | 0.33                | 0.26                 | 0.17                   |
| 3                             | 130               | 0.42                | 0.33                 | 0.21                   |
| 4                             | 130               | 0.5                 | 0.39                 | 0.25                   |

The max. door speed setting is calculated with mass  $m_{\text{equ}}$  of 130kg. The close and nudging speed is then limited to the panel energy of 10J and 4J respectively.

This door times will also vary depending on:

- Door masses
- Friction
- Mechanical adjustments
- Alignment of landing doors
- User Interface SW parameters

开、关门方向的门刀和门锁动作时间约为 0.7 秒。

The time for coupler and lock movement is about 0.7 sec. in open and close direction.

维护门系统的几点注意事项:

Warnings on how to keep the doors in good operating conditions:



为了防止故障或误操作和使系统处于良好状态，需定期检查门系统的技术性能，以确保符合适用法规的规定。



In order to prevent failures or incorrect operation and to maintain the system in good conditions, the technical efficiency of the system should periodically be checked, to ensure compliance with the applicable laws.

技术性能取决于以下因素:

The technical efficiency depends on various factors such as:

- 工作量
- 工作年限
- 门重
- 气候和环境条件
- 环境清洁度
- 正确的维护
- 等等

- Work load
- Years of operation
- Door weight
- Climatic and environmental conditions
- Cleanness of environment
- Correct maintenance
- Etc.

同时技术性能也会影响到:

And it can affect:

- 门与门、门与门柱之间间隙或公差
- 门刀间隙
- 固定件或联接件的状态
- 零部件磨损状况
- 门锁和相关触点的性能
- 其它可能受应用方式影响的零部件

- Clearance/interference between the doors, and between the doors and posts according to the applicable laws
- Clearance of coupling device
- Status/conditions of fixing and coupling elements
- Conditions of parts affected by wear
- Efficiency of the lock and relevant contacts
- Any other parts that may be affected by the type of application.

基于以上原因，本公司无法逐一列出零部件的更换时间表。

For these reasons it is not possible to establish a general part replacement program beforehand.



安装时用到的所有螺栓的拧紧力矩见下表:



All screws used for the assembly of our product are screwed by means of a tightening torque as shown on following table:

| 螺丝  | 最大力矩 (Nm) | 最小力矩 (Nm) |
|-----|-----------|-----------|
| M3  | 1.1       | 0,9       |
| M4  | 2.6       | 2,1       |
| M5  | 5.1       | 4,1       |
| M6  | 9         | 7         |
| M8  | 21        | 17        |
| M10 | 42        | 34        |
| M12 | 71.4      | 57,1      |

| Screw | Max torque (Nm) | Min torque (Nm) |
|-------|-----------------|-----------------|
| M3    | 1.1             | 0,9             |
| M4    | 2.6             | 2,1             |
| M5    | 5.1             | 4,1             |
| M6    | 9               | 7               |
| M8    | 21              | 17              |
| M10   | 42              | 34              |
| M12   | 71.4            | 57,1            |

需要时请参考上表。

In case of need please refer to above table.