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装载机称重系统



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装载机 称重系统

尊敬的客户：

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彩屏语音装载机电子秤

概述

装载机电子秤是本公司研制开发的新一代装载机计量称重产品，其称重原理是通过测量提升油缸的油压进行称重。称重方式是动态称重，即在动臂提升过程中进行称重和累计，动臂无需在提升过程中停止在某个位置。

电子秤显示每一铲的物料的重量，以及装入卡车或火车的物料的累计重量。当铲斗提升至高处，斗中的物料自动被称量，其重量加深显示在显示屏上，这时料斗中物料的重量就被累计到显示屏的累计重量值上，然后料斗翻转使物料卸到卡车或车皮里，铲斗呈空状态。

显示屏除显示铲斗中物料的重量和累计重量之外还显示单位，货名，司机，各种位置和状态提示，方便司机操作。

还显示与称重有关的信息内容，如购买物料的公司名称、卡车或火车车号、物料名称、举臂速度、环境温度、日期时间等。





语音报读版 装载机称重系统

本产品主要适用于以下领域

第一：铁路、港口、码头、矿山等散装物料的实时汽车火车的装载计量、超载控制和保护以及货运量的管理，防止超载和欠载，提高装卸作业效率和效益，保证车辆运输的安全性有着显著的实效；

第二：适用于附加值相对较低的矿物的贸易结算；

第三：适用于工业农业等配料领域的使用，具有速度快，方便等特点。

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技术参数与特点

◆技术参数

- 精度： $\pm 0.3 \sim \pm 1\%$ 。达到国际合法计量组织 OIML 的 Y (b) 精度等级。
- 可显示分度值：1 公斤、5 公斤、10 公斤。
- 工作电压：DC12 $\sim$ 36V
- 工作电流：100mA $\sim$ 200mA
- 工作温度： $-40^{\circ}\text{C} \sim 60^{\circ}\text{C}$
- 电子秤显示：彩色液晶显示（800X480 点阵）

◆仪表的特点

- 微电脑控制，智能化程度高，外形美观。
- 全中文键盘，可以输入中文汉字，配有自动声光提醒，操作简单明了。
- 采用动态采样及模糊算法，实现动态标定和动态称量。
- 双油路多方式检测，数据准确，称重精度高。
- 无须停斗，举升过程中自动称重，不影响装载效率，可防止超载和欠载。
- 可打印装载时间、单位名称、货物名称、重量、车号等数据。
- 800X480 点阵大屏幕显示器，可显示称重结果、累重结果、系统信息等。
- 语音报读功能，可播报当前重量、超铲、粘斗、末铲、开关机。有效防止司机夜间误操作，以及影响司机装车的时间。

- 单铲累计自动声音提示，超载和斗内没倒尽声光报警功能，及时提醒。
- 存储记忆功能，电子秤关机时，存储的称重数据可以保留。
- 抗干扰能力强，适用于各种作业环境。

电子秤使用注意事项

1. 为保护电子秤不受装载机充电电压变化的不良影响，特别注意先启动装载机，再启动仪表，先关闭仪表再关闭装载机，否则容易导致仪表出现故障。平时不用时，注意把仪表电源关闭。
2. 称重前应先提升大臂 5 ~ 10 次，仪表温度显示 10 度以上，预热使油路润滑，其目的是使液压油及压力传感器预热到正常工作温度。
3. 每天开始称重时都须将空斗收到极后位，举升几次看空秤零点是否超出正负 30kg 范围（将斗内残留物清除），超出必须置零。
4. 当翻斗铲上物料准备提升时，必须将斗收到极后位置，并将起大臂的档位阀门扳到极后位置，防止阀门关闭不严（内漏）重复性误差大。
5. 装车时，铲斗在上升时，磁块未过位置开关时切勿一直往外翻斗，容易造成误差增大。
6. 装车时磁块切忌在位置开关中间停臂，应使磁块滑过位置开关过程为一个完整过程。
7. 在称重过程中，装载机应在水平或坡度小于 10° 的场地上停止或缓慢行驶称重，装载机切勿剧烈前进或后退或拐弯进行称重，否则带来较大的误差。如长时间在大于 10° 坡度场地称重时，须重新在同一坡度的场地上置零和校秤后方可使用。

8. 当提升大臂经过位置传感器附近时，举升的速度应尽量均匀，油门切勿忽大忽小，油门最大应控制在速度为 90 以内（调油门定位）。

9. 为保证装载机秤有较高的精度，应对装载机进行好的保养。装载机液压油须正常添加与更换，对轴等部位进行定期打黄油，满载举起 10 分钟斗不自动滑落。

10. 当油路系统发生改变或铲斗发生变化时都须与地磅对比，误差较大者必须进行校正（或掌握其误差规律，以备装货时参考）。必要时使用单位准备 1-4t 的砝码，每台车一周检验自查一次。

11. 修车时，切勿把装载机秤线压断；换电池时，切勿将电池上的电源线接头弄坏或将电池线接反，或高于 36V 将仪表烧毁，或虚接造成仪表损坏。

12. 清洗装载机时，应尽量避免水流溅到称重仪表，避免不必要的损坏。

13. 电子秤内部有电池，因此即使电子秤电源关闭，电子秤内部的时间及存入的称重数据仍可以保留。电池的型号为 3.6V。使用时间为 2-3 年，废电池有害不要乱扔，以免污染环境。

14. 装载机电子秤出现以下情况时，需重新标定。

- 1) 称重不准确时；
- 2) 更换油路油压传感器时；
- 3) 装载机液压系统有变动时；
- 4) 装载机提升杆、提升缸或料斗有变动时；

装载机电子秤的称重方法与精度

电子秤的精度不但跟配置和仪表的处理有关，还跟司机的操作习惯有很大的关系。

1) 准确度 0.5% 以内的称重方法，要求车辆原地不动，在平坦地面匀速举铲称重。

2) 准确度 1% 以内的称重方法，要求 5km/h 以下前进或后退时同时举铲称重。

称重系统安装部件

称重系统包括 5 芯进油油压传感器、5 芯回油油压传感器、油路连接块、上下位置传感器、称重仪表。由于安装过程比较复杂，必须要求专业人士安装方能符合该秤的技术要求。



装载机称重系统



油路转换块

注：不同的车型油路转换块不同，
安装前需提供车型
如徐工，柳工，厦工（如图）。



称重仪表的构成

称重仪表主要由三大部分构成，显示屏、键盘和打印机。显示部分是大屏幕点阵图显示，可显示任何图形或字符内容，主要用于称重状态时观察重量信息。设置日期时间、车号等信息时使用。

键盘：主要是用户操作称重仪表时使用，例如输入英文字母、数字、拼音等。

打印机：仪表自带微型点阵打印机，可将重量、累计信息、车号、过磅员、单位名称等各种信息打印出来。

装载机称重系统

称重仪表开机和关机

按仪表的【开 / 关】键 3 秒执行仪表开机，如果仪表已经开机再按【开 / 关】键可执行仪表关机。仪表开机界面显示如下：



仪表关机对重量信息、已设置的车号、货名、单位名称等均不影响。装载机停车不用时，请按【开 / 关】键关机并将仪表电源关掉。



主界面显示

称重仪表开机后，主界面显示如上图所示，显示内容主要有以下几个方面：

1. （车辆类别）：

仪表设计有两种存储装车方式，火车、货轮。通过按【车辆】键、【货轮】键切换当前存储类别，范围为1~60循环，每按一次上涨一次，按【取消】下降一个数；每个序号里能储存75铲数据。

为适应装轮船的需要，设置【货轮】存储方式，范围1-2共两组，每组可存6000铲。

2. 工作状态：显示装载机当前的工作状态，工作状态默认为“称重”状态，当按“非称”键时在左上角序号框里显示（状态：非称），此时仪表暂停称重和累加。

“置零”表示当前正在进行置零操作，

“扣减”表示当前正在进行扣减操作，

“补零”表示当前正在进行补零操作。

3. 车号显示：显示当前装载车辆的车号，如果当前车类为货车类，则显示货车车号，如果当前车类为火车，则显示火车的车皮号。

4. 设定限重：按仪表的【限重】键，输入限重，最大可设60000t。

5. 累重信息：显示累计称重信息，当前装载的斗数和累计重量。

6. 举升速度、货名：显示称重时装载机动臂的举升速度，称重传感器的AD值，以及当前选择的货物名称，传感器工作的状态。

7. 当前重量：显示当前装载的单斗重量。

8. 位置状态：左下角显示位置状态（蓝色上下箭头），即装载机动臂经过位置传感器的状态。当动臂接近下位位置传感器时显示为“下箭头”变蓝，当动臂接近上位位置传感器显示为“上箭头变蓝”。

9. 日期时间：显示当前的日期时间信息。

装载机称重系统

称重过程

- a. 平稳提升铲斗至下位传感器，位置状态显示为下箭头变蓝色



- b. 平稳提升铲斗达到并超过上位传感器，位置状态显示为“上箭头变为蓝色”，称重完成，显示举升速度，当前重量反背景变为红色，自动累加斗数以及累计重量。



c. 可将铲斗的物料倒掉，进行下次称重，当铲斗回落到下位传感器时，位置状态显示为“下箭头变为蓝色”。

注：当大臂提升过程油门应尽量稳定，切忌忽大忽小，特别是在下位至上位之间时。

键盘说明



◆ 开 / 关

在没开机之前按此键可执行开机，仪表开机后按此键执行关机；

◆ (非称 / 确认)

在称重状态下按此键可将工作状态切换到非称重状态，暂停称重和累加，主要用于清理现场或不需要称重的非称重状态。当工作状态显示为“非称”时，若要切换回称重状态，则再按一次【非称】键即可，在其它状态下当做“确认”使用。

◆ ↓(车辆-) ↑(车辆+)

称重仪表支持同时装载 60 辆货车（每车 75 铲），按此键可在 60 辆货车之间切换，也可在其它装车类型间相互切换；

装载机称重系统

称重仪表支持 60 种货物的配料，按此键和取消键可在 60 种料之间切换。

称重仪表支持同时装载 60 节火车皮，按此键可在 60 节火车皮之间切换。

◆ ←(货轮+)

适合装轮船，共计 2 艘，每艘共存计 6000 铲最多可装 60000 吨货。

◆ 扣 减

最后一斗举起重量到上位，看重量如果超了，按扣减键，此时将累计重量减除，并将适时重量加上去，此时可将重量抖下来一些，达到需要的重量值时再按确认键进行确认。

◆ 存 贮

一车或一车皮装到重量后，按此键，存贮累重信息，但不打印，如若打印，可从存贮管理中查询，并完成打印。

◆ 货 名

切换货物名称，可选择八类货名，分别为：“煤矿”、“滑石”、“重晶”、“铁矿”、“铜矿”、“沙子”、“石子”、“水泥”、“其他”。

操作方法是，用数字键选择需要选择的货名即可，如果这 9 项都不是，可手动输入即可，方法见第 18 页的操作方法，在此地设置的货名如果换车皮时，货名自动恢复到默认的货名，默认货名的设置可在称重状态下按【货名】键 3 秒，仪表会将当前货名设置为默认货名，当用户常用货名与我公司出厂时默认货名不一致时，用户每换一个车皮都须输入一次货名，相当麻烦，所以设置默认货名功能很实用。客户可通过 9 种货名去存储数据，配料方便。

◆ 去皮

去皮是将传感器反馈到电子秤的读数调为零。装载机活动大臂 10-20 次后，空铲举起，如果不是零，按去皮键即可。

◆ 总清

将当前装载的车类的称重数据全部清空，例如当前装载的是货车，按此键将清除所有的货车称重数据。如果当前装载的是火车，按此键将清除所有的火车称重数据。

◆ 累清

将当前正在称重的一辆货车或火车或其它车称重数据清空。例如当前正在装载第二辆货车，即仪表屏幕左上方显示的“货车 02”按【累清】键后，“货车 02”的称重数据就会被清空。

◆ 车号

按【车号】键可输入当前车型及当前车序号下的车牌号，自动保存仪表里（在当前车类别的某个序号下），再输入车号选择，如需汉字输入，参照第 18 页。总共可存储 60 个车皮及编号。

◆ 走纸

按此键，打印机执行一次走纸功能。

◆ 补零

当装载的物料接近预设的吨位时（一般为小于 3t），按补零键后仪表总重实时显示，当过上位后总重显示多于要求的重量时此时将货物抖下来一些，当总重接近需要的重量时停止抖料，并按确认键结束，然后把物料装车即可。

◆ 删除

用于删除当前铲重量，装载机在使用过程中，有可能是调整物料高低过程或非正规起升称重过程，此时发现累计的重量是非正规的称重。

装载货物举例详解

例：某煤炭公司装载一辆汽车的完整过程。装载的货物是焦炭，货车车号为豫 BM*130。

步骤 1：按【货车】键切换到货车类，如果序号 1～20 均已有称重数据，则按【累清】键予以清除。如选择的是“货车 1”，按【累清】可将“货车 1”的称重数据全部清除，即装载斗数清零，累计重量清零，车号清除。

步骤 2：选择已设置的公司名称（按菜单选【7】，选择已经设置好的单位名称）。如果前一辆车与前装载的是同一家单位，且在装载前车时已选择单位名称，则单位不用再选择，此步可直接跳过（单位名称在界面显示）。

步骤 3：按【车号】键进入车号切换界面，然后连续按【车号】键选择已设置的车号（车号设置可参考后面的设置菜单章节）。例如输入豫 BM*130 再按【确认】键即可。



步骤 4：按【货名】键进入货物名称切换界面，然后连续按【货名】选择已设置好的货物名称（货物名称设置可参考前面的设置菜单章节）。

步骤 5：空铲收斗后匀速举起几次后，举起至上位时按去皮键置零。

步骤 6：开始称重，平稳提升铲斗经过位置传感器（下位→上位），称重完成时，当前重量反红显示，装载斗数和累计重量自动累加。



输入法说明

在设置单位，车号等信息过程中，有时需要输入汉字字母。比如，设置货车车号“豫E1*467”，这里面有汉字输入、字母输入也有数字输入，需要进行输入法切换。本仪表设计有三种输入法，分别为“拼音”、“字符”、“数字”，当输入信息时，按【打印】键可在三种输入法之间进行切换。

装载机称重系统

汉字输入方法：首先将输入法换到“拼音”状态，然后通过键盘上的标有字母的按键输入该汉字的拼音字母，例如汉字“广”字，拼音字母为“guang”，按【GHI/2】不动，显示G时松开，再按【TUV/6】不动出现U停止，依次类推，输入完后汉字选择栏内将会出现所有“guang”音的汉字，此时按【确认】键，在汉字前面出现数字，如果第一页没有显示该汉字，可以按【←】【→】键翻页查找。找到后，再按数字键0～9选择要输入的汉字。

字母输入方法：首先将输入法切换到“字符”状态，然后通过键盘上的标有字母的按键输入字母即可。每个按键均可输入一个特殊符号，输入时可进行选择，字母大小写之间的切换是通过按【←】键实现的。

数字输入方法：首先将输入法切换到“数字”状态，然后通过键盘上标有数字的按键输入数字即可。

菜单操作界面说明

按【菜单】键进入主菜单界面，如下所示：

当前选择 -> 菜单1		
1. 设置称重分度	2. 设置累清选项	3. 查看累重信息
4. 打印总累重量	5. 打印单铲重量	6. 导出累重信息
7. 设置单位名称	8. 设置司机名称	9. 设置打印格式
1. 设置日期时间	2. 设置屏幕亮度	3. 设置语音播报
4. 设置空闲关机	5. 设置GPRS网络	6. 设置高级选项
1. 校准秤重复性	2. 校准单铲重量	3. 校准累计重量
4. 执行自动标定	5. 设置称重参数	6. 查看称重参数
7. 设置回程称重	8. 设置零点跟踪	9. 查看操作规范
温馨提示：按上下键切换子菜单，黄色背景表示选中状态		

一、设置称重分度

按【菜单】键进入主菜单后，然后按【1】键进入以下9个选项设置

按【菜单】键进入主菜单后，出现以下9个选项设置，然后【1】键出现0-4五个选项，用户可选1kg，2kg，5kg，10kg，20kg，50kg。

二、设置累清选项

有4个选项，可根据提示选择在累清时是否保留或清除。用户可根据需要进行设置清除选项，以提高工作效率，避免重复操作。

三、查看累重信息

可查看当前车列下每个车皮的累重、铲数、货名、时间等。也可对每个车皮进行打印（必须是经过打印后数据才能储存，才能打印）。

四、打印总累重

可打印该类别下每个车皮（如20个车皮）的重量之和。

五、打印单铲重量

将当前车皮的每一铲的单铲重量清单打印出来（必须是对已打印重量数据才能查看，不打印单位信息，过磅员，货名）。

六、设置单位名称

9个单位名称可选，可重新输入，方法可参考18页的输入法。

七、设置司机名称

9个司机名可选，可重新输入，方法可参考18页的输入法

装载机称重系统

菜单界面第二栏

按【菜单】键进入主菜单后，然后按【↓】箭头键进入以下9个选项设置

1. 设置日期时间

可按屏幕的提示设置日期和时间，最后按确认保存退出。

2. 设置语音播报

当设置为打开状态时，可播报单铲，超重以及最后一次差额数值

3. 设置空闲关机

当装载机称没有称重操作时，可自动关机，时间长短可设置（0-240 分钟）当设置为0时为不自动关机。

4. 设置 GPRS 网络

按此键提示输入密码：XXXX 当输入密码后，可设置 GPRS 网络。

5. 高级设置

厂家保留。用户一般不需要进入。

菜单界面第三栏

按【菜单】键进入主菜单后，然后按【↓】箭头键两次，进入以下8个选项设置

其中7个需要密码，属于厂家校秤使用。

第6项查看称重参数，可观察每个参数，方便厂家远程诊断故障。

查看称重参数			
进程零点:	12150	13000	0
进程BJ值:	4000		
进程系数:	5600		
回称零点:	12150	11000	11000
回称BJ值:	6000		
回程系数:	6600		
静态BJ值:	9800		
称重下限:	50		
按*按 打印 键打印称重参数			
按*按 取消 键返回上级菜单			

电子秤维护与保养

一、仪表不显示:

1. 仪表电源插头是否接触不好或断开。
2. 检查电瓶连接是否接触不好或断开。(仪表电源是连接在装载机电瓶上，如维修装载机电瓶时需要拆卸电源线，请记准安装位置以便以后复原，仪表使用的是12V-36V。)
3. 检查电源线是否被不慎挤压造成断开。

二、称重重量有明显误差

1. 检查传感器插头是否松动。
2. 传感器部分是否被硬物撞动过，有明显撞歪或撞裂。
3. 检查传感器连线是否被挤压造成断开。

三、称重重量无变化或时有时无

1. 称重时，仪表位置状态(上位、下位)变化正常，但重量不变化。

- a. 检查标定数据及系数是否正常。
- b. 检查两只油压传感器插头及中间连线有无撞坏断裂，松动现象。
2. 称重时，仪表位置状态（上位、下位）变化不正常，重量不变化。
 - a. 检查位置传感器插头有无接触不好或断线。
 - b. 检查“下位”、“下位”位置传感器是否螺丝松动或位置偏移。
 - c. 检查磁块转圈或磁块的感应面与位置传感器的接触面是否偏离太远（保持 5—10mm）。

四、打印机换纸方法：

采用的热敏打印机，不需要色带，打印速度极快，大大降低司机操作难度，换纸也极为方便，不像针式打印机，要色带，打印速度慢，换纸特麻烦。打印纸的尺寸为 57*30mm。



仪表后边有打印机斗，将盖子右边用手指抬起（如上图），打印机纸槽下方打开，此时将纸放入纸槽内（切不可装反，无法出字），如下图将纸放好之后，将纸盖子摁下即可，方法特别简单。



打印机故障排除：

1. 走纸正常，打印时空白，无字迹。

检查热敏打印纸是否装反，需要重新装正。

2. 走纸正常，但不能打印。

检查仪表是否设置在非称量状态，若为非称重状态则不能打印，按【非称】键切换为称重状态即可打印。

3. 走纸打印困难或打印错误。

检查装载机电瓶或给装载机仪表供电的电源线是否正常。

4. 卡纸，检查打印纸是否被出纸槽卡住。

五、键盘故障

1. 键盘各按键不起作用，检查键盘插头是否脱落、松动。

2. 某一排按键不起作用，按时无声音提示，其它键声音有提示。

检查键盘插针某脚油污接触不好或腐蚀现象。

3. 某一按键不起作用，按时无声音提示。

检查该键是否磨损严重，需要更换键盘。

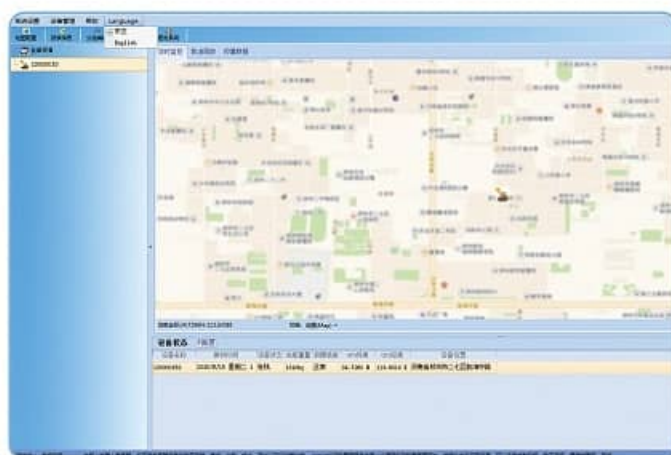
装载机称重系统

升级物联网版

智能装载机秤



手机/电脑都可以用，方便快捷！



电脑端使用



手机端使用

一、注册账号

新用户首次使用本软件需要注册账号，注册方法为：先打开软件进入登录界面，然后点击“注册账号”，进入账号注册界面。



1. 输入手机号，点击“获取短信验证码”；
2. 输入短信验证码，点击“提交注册”，即完成注册。
3. 用户账号为手机号，默认密码为“888888”，用户可以修改。



注册完账号，登陆系统后，可以修改用户资料，点击软件右上角“欢迎用户:XXX”标签，会显示下拉菜单，菜单项包括“修改密码”，“修改资料”，“退出”等，其中“修改资料”可以修改用户注册信息，如下图所示：



点击用户标签，会出现下拉菜单，方便用户修改注册信息。



用户资料里，[注册信息栏]不可以修改，[登陆信息]可以修改，其中“自定义名称”是用户的登陆名称，使用注册手机号和用户名称都可以登陆系统，使用“管理员密码”登陆，软件的权限更高，而使用“操作员密码”

登陆，则软件的使用权限会有一定的限制。

用户资料修改后，点击“保存修改”按钮，即可完成资料的修改。

二、添加设备

用户登陆系统后，需要将购买的称重设备添加到本账号下，才能正常使用该设备相关的称重服务功能，具体添加设备方法如下：

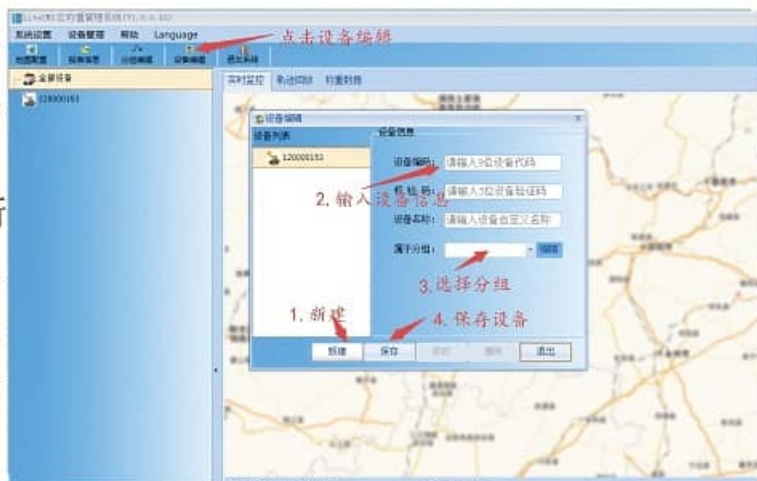
1. 添加分组

如果用户的设备比较多，可以使用分组（也可以不使用分组，直接添加设备），添加分组方法：点击工具栏的“分组编辑”，出现设置组编辑框，按照如下步骤进行操作即可。



2. 添加设备

添加操作设备的方法：点击工具栏的“设备编辑”，出现设备编辑框，按照如下步骤进行操作即可。其中设备信息里的“设备编号”和“验证码”参数在称重仪表屏幕的左上角可以看到，“设备名称”由用户自己定义，“所属分组”是当前设备添加到那个分组（如果未设分组，则无需选择）。



下图是一款装载机秤仪表的称重界面，在左上角显示设备编号（ID 号）及验证码，用户根据这组信息在软件里添加该设备。



三、菜单说明



本软件主菜单主要包括：[系统设置]，[设备管理]，[帮助] 等。其中 [系统设置] 包含以下几项：

1. 报表信息，可以修改报表的题头信息；
2. 地图配置，可以配置当前使用的地图，目前主要包括：高德地图，google 地图，MapInfo 自绘地图等；
3. 离线地图，可以下载地图到本地；
4. 系统背景，可以选择软件主题背景；
5. 退出系统，退出本软件；

[设备管理] 菜单包括：

1. 分组编辑，用于添加 / 删除 / 修改设备分组信息；
2. 编辑设备，用于添加 / 删除 / 修改设备信息；

[帮助] 菜单包括：

1. 用户手册，是本软件的使用说明书。
2. 关于本软件的版本说明。

四、称重业务模块

1. 实时监控

监控设备的实时称重状态，在设备状态栏里显示设备编号、设备名称、工作状态、设备电量、过磅序号、过磅重量、接收时间以及称重位置等信息，并在地图上用图标标出各个设备，点击树形控件的设备组节点，在设备列表内显示该设置内所有称重设备，并在地图上用图标表示出来，点击树形控件的装载机节点或者设备列表内的装载机设备项目，则在地图上黄色图标表示出来。设备处于工作状态则用彩色图标在地图上显示，如果出入停止状态则用灰色图标在地图上显示。



2. 轨迹回放

设备列表内选中任意设备，则在轨迹回放地图界面出现该设备的所在位置。选择轨迹起始时间、结束时间，点击[播放]键，在地图上绘制出该设备的运行路径。点击[停止]键，则停止绘制设备运行路径。点击[清除]键，则清除已经绘制的设备运行路径。

3. 数据查询

数据的查询可以按照以下条件单个查询或者组合查询：

1. 起始时间，2. 结束时间，3. 设备编号，4. 客户单位，5. 物料名称，6. 操作员，7. 车（皮）号。

在左侧树形控件上点击选中相应的设备节点，则自动查询出该设备当天的称重数据，在下侧设备列表中点击选中相应的设备，也会自动查询出该设备当天的称重数据。查询结果显示在右侧数据列表栏里，可根据客户需求显示相关内容，在此数据列表栏内显示的称重数据，均是每车总累重量，在右下角的数据列表栏内则显示，每车所有的单铲称重数据。

The screenshot displays the '称重数据' (Weighing Data) section of the software. On the left, there is a sidebar with search filters: '起始时间' (Start Time) set to 2020-11-24 00:00:00, '结束时间' (End Time) set to 2020-11-25 23:59:59, '设备编号' (Equipment ID) set to 120000153, '客户单位' (Customer Unit) set to 查询称重数据, '操作员' (Operator), and '车(皮)号' (Truck/Tray ID). Below these are buttons for '查询称重数据' (Query Weighing Data), '打印报表' (Print Report), '导出数据' (Export Data), and '其它查询' (Other Queries). The main area contains a table with columns: '序号' (Serial Number), '设备编号' (Equipment ID), '设备名称' (Equipment Name), '流水号' (Flow Number), '接收时间' (Receiving Time), '当班序号' (Shift Number), '当班重量' (Shift Weight), '累计重量' (Cumulative Weight), '车号' (Truck Number), and '货名' (Cargo Name). The table lists 32 records. A red arrow points to the '设备编号' column header with the label '显示设备状态' (Display Equipment Status). Another red arrow points to the '当班重量' column header with the label '显示称重数据' (Display Weighing Data). At the bottom, there is a '设备状态' (Equipment Status) section showing details for equipment 120000153, including its status (正常 - Normal), location (湖南益阳市安化县), and coordinates.

4. 远程协助

远程协助主要包括：远程称重标定以及向设备发布信息等，其中远程标定能够取代现场标定，减少工人出差，提高工作效率。

The screenshot displays the '称重数据' (Weighing Data) section of the software. On the left, there is a sidebar with search filters: '设备名称' (Equipment Name) set to 120000, '查询数据' (Query Data), and '发布信息' (Release Information). A red arrow points to the '发布信息' button with the label '向设备发布信息' (Release information to the device). The main area shows a map view with a yellow line representing a road or path. At the bottom, there is a '设备状态' (Equipment Status) section showing details for equipment 120000153, including its status (正常 - Normal), location (湖南益阳市安化县), and coordinates.

装载机电子秤操作规范

为使装载机电子秤获得良好的称重精度，请用户在使用过程中注意以下事项：

一、装载机电子秤开机前应先启动装载机，提升动臂 5 ~ 10 次做预热提升，其目的是使液压油及压力传感器预热到正常工作温度，减少油温不稳对称重精度的影响。

二、在称重过程中，应避免装载机行驶，称重结束后可任意行驶速度不限。如在称重中行驶，则车速控制在 5km/h 以下，但准确度会降低 0.5%。

三、在称重过程中，提升动臂经过位置传感器时，提升速度应尽量均匀（杜绝加 / 减油门或油门停顿）。

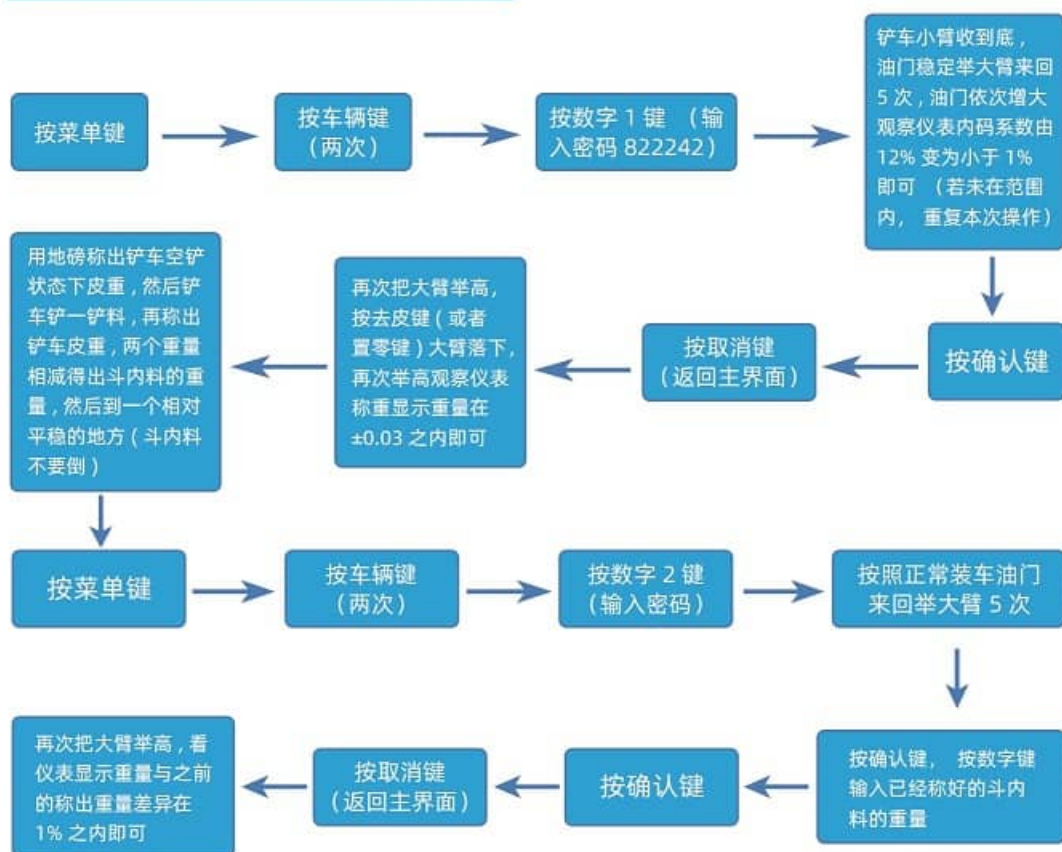
四、装载机应尽量选择较水平的地面上或坡度小于 15° 的情况下进行提升称重。

五、当完成此次称重后，料斗应回落到最低位置，以备下次铲料称重。

产品及企业荣誉

- 装载机电子秤全国覆盖率达到 60% 以上，中国主要的装载机秤生产基地。
- 十多年的衡器生产经验，在全国各省市自治区均设立有代理商与服务机构（覆盖全国、服务最快）。
- 中国衡器协会会员单位，国家高新技术企业。
- 一次性通过欧洲 CE 认证。
- 装载机秤、汽车衡、皮带秤取得多项国家证书。

装载机秤调试校准步骤



装载机称重系统

工作流程示意图

① 装料

把散料铲入铲斗，开始举升。



② 称重

当铲斗举升至高处，仪表
电脑内部对铲斗中的物料进行称重。

③ 卸料

把铲斗中的物料装入货车，
然后重复上述步骤继续称重。



人性化的客户服务

● 我们将会给您提供及时、优质的产品售前、售后服务

我们拥有遍布全国的销售网络和完美的服务处理流程。您的每一个电话都将转给相关部门的技术人员，接受过严格培训的专业人员将会给您提供优质的安装校验和系统培训。



● 客服人员正在接待
客户视频指导



● 技术人员现场服务



LOADER WEIGHING SYSTEM

DEAR CUSTOMER:

Welcome to use Loader scales produced by us.
Please read this manual carefully before usage.



TOP SELLING OPTIONS

VOICED & MULTICOLOR SCREEN WHEEL LOADER ELECTRONIC SCALE

This new model of wheel loader electronic scale is the latest product of our company. Based on the theory of weighing by measuring the increased oil pressure inside the hydraulic cylinder, it's a system of dynamic weighing technology. Weight is simultaneously measured, recorded and accumulated as the loader arms are being lifted, without their having to be stopped at certain position.



It displays the weight of every single shovel bucket as well as that of the total load accumulation in a truck, railway wagon or freighter. The shoveled bucket load is weighed being lifted and this weight is automatically added to the accumulated total, which is clearly presented on the indicator display, too. With the dumping of the shovel load into a truck, railway wagon or freighter, the indicator restores its reset mode with the empty bucket.

Besides unit weight and total weight reports, for the convenience of the loader driver, the display also supplies information, such as the names of the involved company, the materials, the truck driver as well as reports of the wheel loader's positions and conditions.

More detailed information is also included such as the purchasing company of the materials, the plate number of the truck or railway wagon, the loader arms' lifting speed, environmental temperature, date and time etc.



WHEEL LOADER WEIGHING SYSTEM

VOICE REPORT VERSION

This product is suitable for these sectors:

1. Transportation Sector: simultaneous weighing and calculating of bulk cargoes at railway stations, port harbor, docks or mineral mines. Its equipment leads to four apparent advantages : Prevention of overload or under load , Enhanced management of freight quantity, Improvement of loading efficiency and Guaranteed profit and transportation safety.

2. Trade Sector : Trade and transactions of low value-added mineral materials.

3. Industrial & Agricultural Sector, Batching in industrial and agricultural fields, featuring in high speed .

CATALOGUE

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Loader weighing system

Technical Parameters & Features:

◆ Technical parameters

- Accuracy: $\pm 0.3 \sim \pm 0.1\%$, qualified for the accuracy degree Y(b) demanded by the OIML.
- Minimal Presented Division Unit: 1kg, 5kg, 10kg.
- Working Power Voltage: DC12~36V
- Working Power Current: 100mA ~ 200mA.
- Working Temperature: $-40^{\circ} \sim 60^{\circ}\text{C}$
- Scale display: Multicolored LCD (800*480 dot matrix)

◆ Meter Features

- Interior micro-computer driven, highly intelligent technology, space-saving design and exquisite appearance.
- Full English keyboard input English words with auto vocal and light reminding function .
- Dynamic sampling and fuzzy algorithmic technique realizes dynamic weighing and locking.
- Dual-orifice and multiple detecting system ensures correct data and accurate weighing results.
- Non-stopping weighing procedure without necessarily having to freeze the bucket guarantees high loading efficiency and avoids either overloading or under loading performance.
- Information printing of loading time, date, company name , cargoes, weight and truck plate number.
- Enlarged screen of 800*480 dot matrix displays single shovel weight , accumulated weight and other systematic information.

- Voice reports of the present weight, surplus buckets, bucket residues , the last bucket and indicator' s on and off reminder, promises the driver effectively from operating mistakes and loading delays.
- Auto-voice reminder also includes both single bucket and total weight and immediate alarming of overload or bucket residues.
- Memory and data is secured by preserving function that saves all the weight data when the scale instrument is turned off.
- High anti-jamming capability allows adaption to various working environment.

Requirements & Precautions for the Scale Operation

1. To protect the scale from the unstable charging voltage of the wheel loader, it must be especially noted that the loader driver must start the wheel loader engine prior to switching on the scale indicator , and turn off the indicator before shutting down the wheel loader engine. And the power source of the indicator must be cut whenever the loader is not at working.

2. Lift the loader arms continuously 5to 10 times until the temperature shown on the indicator screen reaches up to 10 ° C before working. This warming up is necessary for a smooth oil current and to prepare the hydraulic fluid and the pressure sensors ready with a normal working temperature.

3. Before actual daily loading, the empty bucket must be withdrawn to its extreme rear position and then lifted several times to check if its weight remains within the normal range of $\pm 20\text{kg}$ supposed for an empty bucket. Otherwise the indicator must restore zero by clearing the residues inside the bucket.

4. Before lifting the loaded bucket, it must be withdrawn to the utmost rear position and the valve of the bigger load arms must be placed at their utmost rear gear,too, to prevent interior leakage and inaccurate weighing caused by a leaky bucket.

5. Being lifted, the bucket should not always be kept turned outwards when the black magnet slider is still below the black mark of the lower position sensor.

6. During the process of loading , the loading arms can' t stopped while the black magnet slider is still within the bucket position measuring range.

7. The wheel loader should be in a static condition or at least be driven at a low speed on a ground of a gradient over 10°. Wheel loader' s violent dashing forward,

Loader weighing system

backward or abrupt turning around can cause serious data errors. Working on a ground with a gradient over 10° for a long time, the loader scale must be reset and recalibrated with an empty bucket on this ground before working.

8. Whenever the bigger arms are passing the position sensors, the driver should purposely slow down the lifting speed and keep the accelerator steady without any sudden power increase or reduce. The ideal speed should be controlled under 90.

(Fix the speed by adjusting the accelerator)

9. Thorough and consistent maintenance is required of the wheel loader for a high accuracy of the scale. The hydraulic fluid must be timely added or replaced. Lubricating grease must be applied to each joints and axle periodically. Each time raise fully loaded bucket up and wait for at least 10 minutes to let it slide down independently.

10. Every time the hydraulic fluid system or the bucket is modified or upgraded, recalibration must be performed by weigh bridge. Major errors must be corrected (or make a data of its error frequency to refer to in later loading.) If necessary, equip the wheel loader with a set of standard weights of 1-4t for weekly check.

11. Care should be taken not break the scale wires when the wheel loader is under repair, not to break the battery terminals or connect the power cord inversely when replacing batteries and not to damage the indicator by connecting power over 36V or invalid power connection.

12. Avoid unnecessary damage caused by water splash on the indicator when cleaning the wheel loader.

13. Batteries modeled 3.6V and of a 2-3 years lifespan are installed inside the electronic scale, so all the data and the inset time is preserved even when outer power supply is shut down. Attention is required in disposing deserted batteries for environmental protection.

14. Resetting is needed on the following four occasions.

1. Incorrect weighing.
2. Replacing the hydraulic pressure sensors.
3. Modifying or upgrading the wheel loader hydraulic system.
4. Modifying or upgrading the lifting rod, the lifting cylinder or the bucket.

Weighing Methods and Accuracy

The accuracy of this electronic scale is subjected not only to its accessory devices and the indicator but also to the driver' s performance.

1.Accuracy of less than 0.5% requires weighing without the loader' s moving on a flat ground.

2.Accuracy of less than 1% requires weighing and moving forward or backward at a low speed of 5km/h.

Installation of weighing system components

The weighing system consists of a 5-core oil-inflow pressure sensor, a 5-core oil return pressure sensor, an oil route block, a vertical position sensor, a magnetic induction slider and an scale indicator. Since the installation procedure is very complicated, it must be carried out or guided by professional technicians.



Four-core Position Sensor



Five-core Entry Oil Pressure Sensor



Five-core return Oil Pressure Sensor

Loader weighing system



oil terminal module

Note: Oil route block varies with different types of vehicles. please inform us of your vehicle model before purchase.



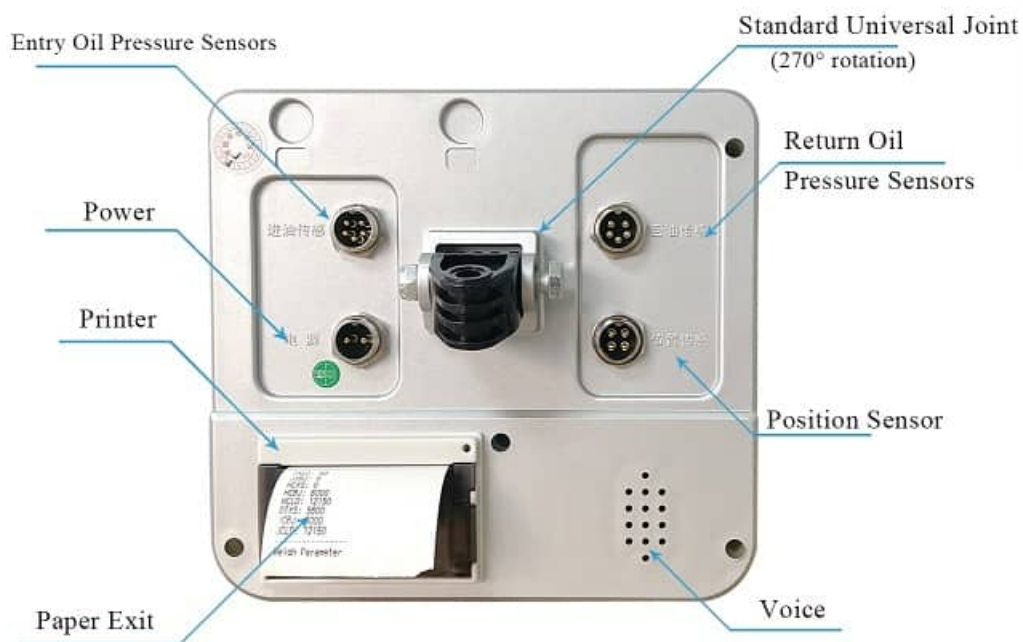
Indicator Composition

The Indicator Instrument Consists of 3 Main Parts: the display, the keyboard and the printer.

The display features in a broad screen of dot-matrix ,which can present clearly any word , symbol ,figure or graph, the very reason why it is most popular in observing weight data in loading. Information such as data, vehicle plate number etc however, can be reset personally.

Keyboard: Mainly used in operating the indicator and inputting instructions of English letters, numbers or Chinese characters.

Printer: Micro-Dot Matrix printer is attached to the indicator to output paper data record of weight, accumulation data , vehicle number , the weighbridge man and company name.



Scale Indicator Installation

Five alloy plated interfaces are arranged at the back side of the indicator, including two 5-core hydraulic pressure sensors, one 4-core position sensors and one 2-core power cord. Please make sure of a straight insertion when connecting the sensors' wires and an immediate fastening of these protection nuts. An invalid loose connection of any one of these interfaces can cause malfunction or inaccurate weighing. Please note that all our products are well assembled and fastened before packing up, so do not take off the connecting wires on yourselves for unnecessary reasons. Otherwise needed disassemble must be performed with professional guidance.

The most adopted installation style is to weld the weighing indicator firmly on the mental frame of the wheel loader driving cab at a comfortable position with an adjusting range of 270° up and down.

Loader weighing system

Indicator Switch On and Off

Press the “Start” key for 3 second to switch on the indicator, and press it again to switch it off .The home page is shown as following



Switching off the indicator will have no effect on stored data of weight , the file of the present vehicle, material information and company name etc. So when daily work is over, please press the “Start/Stop” key to switch off the instrument and turn off power supply.



Home Page Information

When the instrument is on, the home page is shown as the above.

It contains:

1. Type of vehicle

The indicator is designed for 3 kinds of loading modes: Railway Wagon, Trucks and Freighter , which are arranged in two sets of keys:“Railway Wagon”and “Freighter”.

Working modes can be alternated by switching the keys of “Railway Wagon” (including trucks) and “freighter” respectively. A complete recycle is from 1 to 60, and the number will increase by one digit with every press of the mode key, while decrease by one digit with a press of the “Cancel” key. Each serial number can store up to 75 shovels’ weight data.

2. Working Mode

The present working conditions are reported by the indicator. The original default mode is “Weighing”. Press the “Non-weighing” key to shift it to a non-weighing condition. In this condition, the words “Non=weighing” is shown on the top left corner of the screen and the instrument will automatically stop weighing and weight accumulating.

“Reset” key means to reset the present operation.

“Deduction” means to deduce the present operation.

“Zero Fill” means to zero fill the present operation.

3. Vehicle Number

The plate number of the freight vehicle is presented on the screen. In the case of truck mode, it shows the plate number, of a railway wagon mode, the wagon number and in the case of batching, the materials’ code number is shown.

4. Weight limit Setting

Press the “Weight Limit” key and input the desired quantity. The designed capacity is 60,000t.

5. Weight Accumulation.

Displayed data includes the weight accumulation data and the accumulated number of shovels.

6. Lifting Speed and Material Names

The indicator supplies real-time comprehensive reports on the lifting speed of the loader arms, the temperature of the weighing sensors as well as the name of the present material and the condition of the sensors.

7. Present weight: It shows the weight of every single shovel of the present bucket load.

8. Positions: With a pair of blue arrow symbols pointing up and down at the right bottom corner of the screen, the indicator synchronizes the working conditions of the loader arms passing the upper and lower position sensors. When working arms get close to the lower position sensor, the symbol of blue arrow pointing down is illuminated, while to the upper position sensor, the backlight of the blue arrow pointing upward is on.

Loader weighing system

9.Date and Time:

Shows the present date and time.

Weighing Procedure

A.Lift the shovel bucket to the level of the lower position sensor steadily , with the arrow pointing downward turning blue (a small triangle symbol at the left bottom corner of the screen).



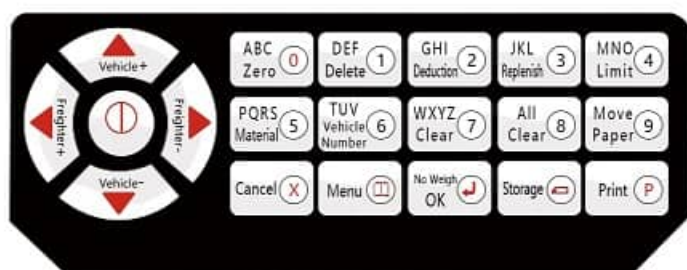
B.Continue to lift the bucket until it passes the upper position sensor and the arrow pointing upward turns blue. At this point the weighing is completed and the arms lifting speed reported , the figure of the present weight is highlighted with a red background and

the total weight accumulation is automatically calculated and presented on the screen.

C. Dump the load off the bucket and get ready for the next shovel. When the empty bucket lowers back to the lower position sensor, the arrow symbol pointing downward turns blue again.

Caution: Keep the loader accelerator as steady as possible and avoid sudden increasing or decreasing of lifting speed, especially when the loader arms are moving between the lower and the upper position sensors.

Keyboard Explanation



◆ ON/OFF

Press this key to switch on the instrument and press again to switch off

◆ Non-weighing

Press this key to change the present weighing mode to a non-weighing one and suspend weight recording and accumulating. This alternation is mainly adopted when cleaning and clearing the working site or any other occasions where actual weighing is not needed. To resume weighing process, press the “Non-weighing ” key again.

◆ Vehicle ↓ Vehicle ↑

This function enables the wheel loader to load up to 60 trucks at the same time. Press this key to allow the loader shift among a fleet of trucks or among different loading modes.

This instrument’ s batching capacity is of up to 60 kinds of different materials . Press this key to shift freely among the 60 kinds of materials.

Loader weighing system

This instrument supports loading simultaneously for up to 60 sections of railway wagons. Press this key, the loader can shift among the 60 railway wagons at the same time.

◆ Freighter←

Capable for loading two freighters or cargo vessels at the same time with each one having a capacity of 60000t and sharing 6000 shovels' load.

◆ Deduction:

With the last shovel load lifted and the indicator showing overweight, press the "Deduct" key to cancel the present shovel load weight; After shaking off the excessive loading material, calculate again so that the weight is right the total weight desired.

◆ Preservation:

At the completion of loading a truck or railway wagon, press the "Preserve" key to store the weight data without printing. For printing certain vehicle or wagon' s data, find it at the "Preservation Administration" and print it out.

◆ Material Names:

This instrument defaults altogether 8 material names, which are interchangeable but denying to revision. The driver can choose from nine types of materials: Coal, Talc stone, Barite, Ironstone, Copper mine, Sand, Cement, Pebbles, and others. The procedure: Press "Material Name" key and choose specific material names by pressing corresponding digit keys. If none of the 9 names meets the user' s requirement, input the name manually according to the method illustrated at page 52.

Material name will automatically restore the defaulted name every time to load a new railway wagon. Therefore, for users whose daily materials are not included in the 9 names, it would be extremely useful and practical to reset his own material names in the indicator. First input the new name and make sure that the indicator is in the "Weighing" mode, and then press the "Material" key for 3 seconds, so the original defaulted name will be automatically replaced with the present name. In general, the user can store up to 9 different kinds of material names.

◆ Zero Setting(Tar Removal):

Lift and lower the loader arms with an empty bucket about 10-20 times. If the weight on the indicator is still more than zero, press the “Zero Setting” key to null the weight on the screen to zero ;

◆ General Delete

Press the “General Delete” key, all the weight data of the present loading mode will be deleted.If the present vehicle is a railway wagon, then all the weight data of railway wagon mode will be deleted. The same is with the freighter loading mode.

◆ Accumulation Delete

Press this key, the weight of the present vehicle will be deleted.

For example, if the present vehicle is the second railway wagon of a train , “railway wagon 2nd” is shown on the left top corner of the screen. By pressing the “Accumulation Delete” key, all the weight data of the second railway wagon will be deleted.

◆ Vehicle Number

Press this key and input the plate number of the present vehicle, which will be automatically stored by the instrument into the vehicle file by vehicle type and certain serial code in this catalogue. If Chinese characters are needed in input, refer to page52. for Chinese input instruction. The indicator can store up to 60 vehicle or railway wagons’ numbers.

◆ Paper Feeding

Press this key, the printer will be ready with paper.

◆ Zero Filling

When the total loaded weight is close to the target total weight, usually within a balance less than 3 tons, press the “Zero Filling” key in case overweight. Continue to load by shaking off excessive weight until it is right within the desired total quantity.

◆ Delete

On many occasions, weighing is not necessary such as organizing or clearing the working site where weight should not be counted and recorded. Press this key to delete the present shovel load weight.

Loader weighing system

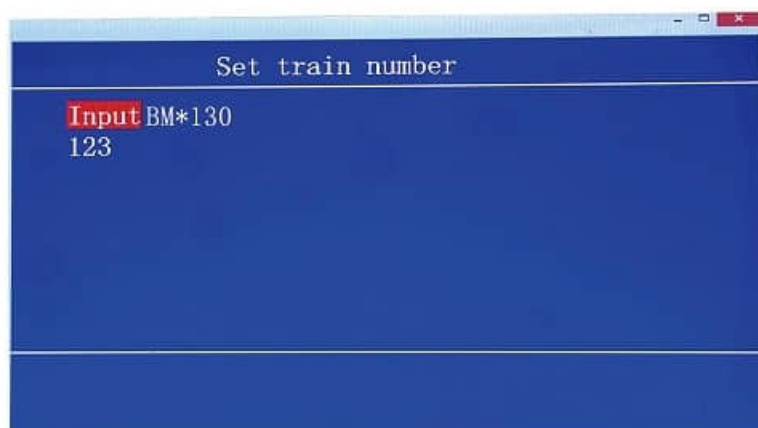
Loading Illustration Case

For instance, some coal company is loading coal on a truck numbered [豫 BM*130] .

Step one: Press “Truck” to shift to truck loading mode. Press “Accumulation Delete” to erase the present data if no available serial number from 1 to 60 can be found to store new weight data.If truck 1st is chosen in loading, press “Accumulation Delete” to delete all its previous accumulated data, including the shovel number, the accumulated weight and the vehicle number.

Step two: Choose the company name .Press “7” on the menu to choose the preset company name),which would be unnecessary and therefore can be skipped if this truck belongs to the same company with its predecessor and the company name is already existent in the indicator.(The company name is shown on the screen.)

Step three: Press “Vehicle Number” to enter the vehicle number processing page and press “Vehicle Number” key again to choose the preset vehicle number.(Reference to the chapter of “Menu Setting” is suggested in setting vehicle numbers.) For example, input the vehicle number “ 豫 BM*130” and press “Confirm”.



Step four: Press “Material Name” to enter the material name processing page. Continue to press “Material Name” to choose preset material name. (Reference to the chapter of “Menu Setting” is suggested in setting material names.)

Step five: Withdraw the empty bucket and lift it several times at a steady speed. When the bucket reaches to the upper position, press the “Net weighing” key to null the weight to zero.

Step six: Lift the bucket steadily to let it pass the position sensors (from lower to upper), and when the weighing is completed, the present weight outstands with a red color background on the display screen and the total shovel number and the general weight accumulation are also automatically presented.



Input Method Explanation

This indicator is supported with 3 kinds of input: Chinese, English and Number. In inputting information such as weighing unit, vehicle numbers, for example, all the three ways of input are required and needed to be interchanged from one another to finish a number plate such as “豫 E1*467”, for example. Please press “Print” key to interchange among the three types of input.

Loader weighing system

Chinese input method

Alternate input to “Chinese” mode

Input characters according to the symbols on the keys. Chinese “广” for instance, whose Pinyin is “guang”, Press [GHI/2] and keep your finger on it till the letter G appears on the screen. Then press [TUV/6] and wait for the letter U appear, and so on. When all the Pinyin of this characters are inputted the screen will show all the homophones of “广”. Press “Confirm” key and all the homophones are numbered for you to press the corresponding digit keys 0-9 to complete its input. If the character doesn’t appear on the first page please flip pages by pressing [←] [→] keys.

Letters input method

Switch the input mode to “Letters” and press keys of corresponding letters to input word instruction. Each key also stands for a special symbol which can be chosen. Switching with capitals is by pressing [↵].

Number input method

Switch the input mode to “Number” and press keys of corresponding numbers to input digit instruction.

Menu Operation Explanation

Press “Menu” to enter the main menu page shown as follow:

Menu Item		
1. Division value	2. Clear options	3. View weight
4. Print total	5. Print single	6. Export data
7. Customer name	8. Operator name	9. Import data
1. Set date time	2. Set brightness	3. Set voice
4. Idle shutdown	5. GPRS network	6. Advanced
1. Repeatability	2. Single calibr	3. Total calibr
4. Coefficient	5. Set parameter	6. View paramet
7. Return weigh	8. Zero track	

◆ Set Weight Division

Press “Menu” key to enter the menu. Press [1] to enter the page with 9 setting options on the upper part of the page. Then press option [1] to open the sub page where appears on the screen 5 setting options ranging from 0 to 4 for the user to choose 1kg, 2kg, 5kg, 10kg, 20kg and 50 kg respectively.

◆ Set Accumulated Delete Option

Four options are available for the user to decide to preserve or delete data according to his need. This operation can avoid repetitive work and increase efficiency.

◆ Check Accumulated Weight Data

The user can exam the general information about the present vehicle or railway wagon, such as the accumulated weight, the shovel numbers, the materials name and time. This information can also be printed but the printing is only possible after the information has been stored by the indicator.

◆ Print Accumulated Weight

The instrument can calculate and print the total weight of up to 20 railway wagons, for example, under this category.

◆ Print single shovel load weight.

This instrument can print a list of each single shovel’ s weight of this present truck or railway wagon. This printing does not include the names of the company , the material and the weigh bridge man.

It should be noted that only printed weight data can be checked.

◆ Set Company Name

Totally 9 companies’ names for the user to put in and choose from . For input method please refer to instructions on page 52.

◆ Set Driver’ s Name

Totally 9 drivers’ names for the user to put in and choose from . For input method please refer to instructions on page 52.

Loader weighing system

The second column of the menu

Press Menu to enter the main home page, Press $\left[\downarrow \right]$ to enter the page with 9 setting options.

1. Date and Time Setting

Set the date and time according to the screen instructions and make sure to save it before leaving the page.

2. Backlight Brightness Setting

The backlight has 3 modes to choose from: Constant On, Automatic and Constant off. The commonly adopted mode is Automatic, in which the keyboard backlight is on at night and off at daytime. Therefore, this mode has the advantage of prolonging the keyboard's life span.

Brightness ranges from 0 to 200 but is usually set at 100. Actual brightness is adjusted according to the working surroundings.

3. Voice report

When the voice report setting is on, it supplies voice reports of single shovel load weight, overloading and the balance to the target quantity at the last shovel.

4. Set Standby Mode Time

The time of auto shutdown can be customized ranging from 0 to 240 minutes. When the setting is 0, the indicator will not shutdown automatically.

5. Advanced Setting

This part is preserved for the manufacture exclusively and the user is suggested not to enter.

The Third column of the menu

Press "Menu" to enter the main home page of the menu, then press $\left[\downarrow \right]$ twice to enter the third sub page where 8 setting options are available.

Of the 8 options ,7 are only accessible with passwords and they are used mainly by the manufacture for calibrating. The 6th option is to show the weighing parameter for the manufacture to carry out remote detect and diagnosis.

Parameter view			
DyncZero:	12150	13000	0
DyncCoef:	4000		
Dync BJ:	5600		
RetuZero:	12150	11000	11000
Retu BJ:	6000		
StacZero:	6600		
Stac BJ:	9800		
MinWeigh:	50		

Electronic Scale Maintenance and Repair

◆ Indicator failure to display

1. Check if the power interface is disconnected or loose.
2. Check if the battery connection is invalid or not fasten.(The weighing instrument ' s power supply is connected to the wheel loader' s battery. On occasion that the wheel loader ' s battery needs repairing and the indicator' s power cords must be disconnected, please make note of each of their individual positions so that they will be connected back to the original interfaces later.)
3. Exam if the power cords are broken.

◆ Apparent weighing errors

1. Check if the plug of the sensor is loose.
2. Check if the sensor has been damaged or destroyed.
3. Exam if the sensors' wires are broken.

Loader weighing system

◆ Indicator failure to display updated weight

1>Indicator functions well in position reporting (upper position /lower position),but the weight on the display remains a fixed figure without changing.

A. Check if the calibration parameter and the coefficients are still normal.

B. Check if the plugs of the two oil pressure sensors are worn out or damaged, or if the linking cord connecting the two sensors is broken or disconnected.

2>Indicator doesn' t present correct position reporting (upper position /lower position),and the weight on the display remains a fixed figure without changing.

A. Check the plugs of the position sensors are still in good conditions;

B. Check if the position sensors are well fastened, or there is any deflection caused by loose screws.

C. Check the smoothness of the black spinning magnet slider mobility, or if it' s magnet surface is out of the functional range of the sensors. (normal distance should be within 5-10 mm.)

◆ Printing Paper Renew

Indicator uses a thermal printer , which doesn' t need a color tape but prints the driver is given the most convenience in operating and saved from the tremendous trouble and time in printing and renewing paper in the case of a stylus printer.The size of printing paper is 57*30mm.



Find the printer closet at the backside of the indicator and open its cover lid with one finger (as shown in the photo), exposing the paper slot. Pay attention to avoid filling the paper roll into the slot inversely, otherwise the printer can' t function normally.



◆ Printer Malfunction Cause Analysis

1. Paper feeding is normal but the printed paper is blank.

Check if the thermal printing paper roll has been fixed inversely and if so, refill correctly.

2. Paper feeding is normal but the printer doesn't start.

Check if the indicator is in the "Non-weighing" mode and if so, press "Non-weighing" key to shift to the "weighing" mode. (Printing won't start in "Non-weighing" mode.)

3. Paper feeding is difficult or printing is full of errors.

Check if the power cord linking the wheel loader battery and the indicator is well connected.

4. Paper stuck up

Check whether the paper is stuck up by the slot.

◆ Keyboard Malfunction

1. Keys don't respond.

Check if the keyboard plug is loose or disconnected.

2. The keys in a certain row on the board become soundless when pressed while the rest keys still sound well. Check if these keys' bottom pins are wrapped with grease or dirt, or simply already eroded.

3. A certain single key doesn't have sound when pressed.

Check if this key has been worn out and replaced the whole keyboard.

Loader weighing system

Standard Operation of Wheel Loader Electronic Scale:

To obtain the maximum of accuracy, the user needs to be cautious with the next points:

1. The scale indicator must be switched on only after the wheel loader has been started and a warming up of lifting and lowering the loader arms about 5-10 times is necessary for preparing the hydraulic pressure sensors with a temperature demanded of normal functioning and avoiding inaccuracy caused by unsteady oil temperature.

2. The wheel loader should be in a static condition during the process of weighing but mobility of any speed is allowed once the weighing is performed . Otherwise control the loader speed below 5km/h but at a sacrifice of weight accuracy reduction of 0.5%.

3. Keep the lifting speed of the loader arms steady and even as they are passing the position sensor. (A sudden increase or reduce of the accelerator or half way stop must be forbidden.)

4. Wheel loader weighing should be performed on a ground of a gradient of less than 15°.

5. When a single process of weighing is completed , the bucket must be withdrawn to its lowest position for the next lifting up.

Our Products & Enterprise Accomplishments

- The biggest wheel loader manufacturing base in China with a domestic market coverage of over 60%.

- Backed up with with an experience of nearly 20 years in manufacturing weighing equipment, our representative agencies and after-sale service centers can be found in almost every provinces ,cities and autonomous regions in China, offering the most efficient service nationwide.

- As a high-tech enterprise of nationally acknowledged entity, we are a formal member of China Weighing Instrument Association (CWIA).

- Our products have had a one-time pass in the approval of CE of the European Union.

- Our wheel loaders scales , truck scales and belt conveyer scales have won numerous national certificates and prizes.

Illustration of Operation Procedure

- We will supply you with timely and high quality presale and after-sale services.

With a well-established sale and service net covering all the country, every one of your calls will be answered by our technicians who are hand picked from our highly trained professional force. They will supply you with quality technical back-up, installation, calibration and systematic training.



- Our technician is giving a video guiding to a customer in solving on the spot problems remotely.



- Our technician arrives at the working site with service support.

Loader weighing system

Operating Procedure Diagram

➤ Loading

Shovel material and raise the bucket



➤ Weighing

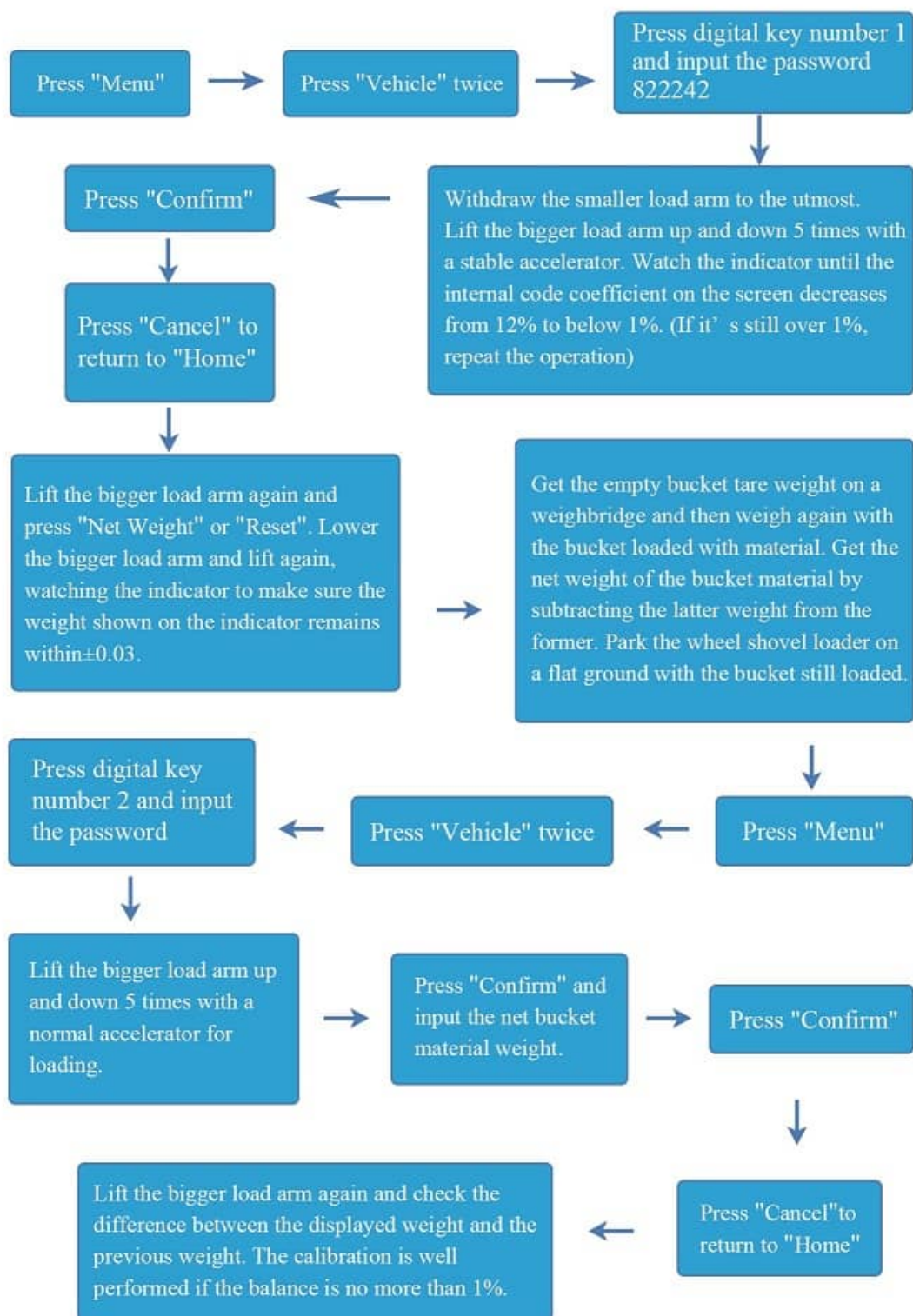
Automatic weighing internally by the indicator when the bucket raised up.

➤ Unloading

Unload into the truck and continue weighing and repeating.



CALIBRATING PROCEDURE OF THE WHEEL SHOVEL LOADER SCALE





◆ BELT CONVEYOR



Speed sensor/encoder
(Alternative)



Load cell/Load receptor
(Alternative)



24V voltage stabilizer



Frequency
converter



PDC6000 belt
scale(Alternative)



Electric control
cabinet(Alternative)



Touch screen
scale(Alternative)



Electric control
cabinet(Alternative)

Installation



Anyang, Henan



Huangshan, Anhui



Zhumadian, Henan



Zuoquan, Shanxi



Shijiazhuang, Hebei



Truck scale customization



Foundation Junction box Load cell Platform

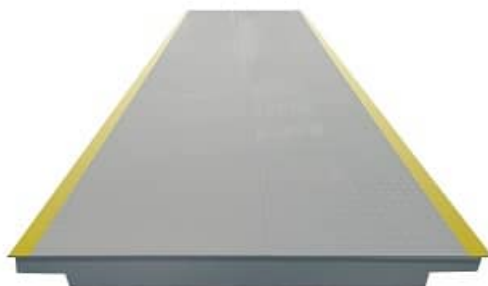
10~200T

700L high strength steel

U type shear bear

Antislip pattern panel

Anti-corrosion paint



Weighing sensors



PSD-F1 shear beam load cell



PSD-X3 load cell



PSD-F3 load cell



PSD-QS load cell



PSD-KCLBF load cell



PSD-S1 load cell

Weighing controller



PSD3108 weighing controller



PDC6000 belt scale



BZ8000 packing scale



XK3120D feeder weighing controller



XK3110P feeder weighing controller

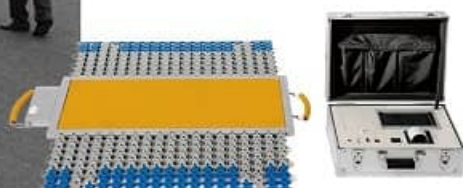


XK3160P feeder weighing controller

Portable Axle Load Meter



Movable weighbridge



Customized available (electric control cabinet)



专注称重，精无止尽



扫一扫，下载电子版说明书