莫得威
ModWeigh

产品特点....FEATURES

- 应用于失重秤（或增重秤）系统的物料流量称量及控制
  FLOWRATE MEASUREMENT AND CONTROL FOR LOSS-IN-WEIGHT (OR GAIN-IN-WEIGHT) SYSTEMS

- 电机速度控制信号输出
  MOTOR SPEED CONTROL OUTPUT SIGNAL

- 流量数据输出/反馈
  FLOWRATE OUTPUT

- 可计量总累计量
  MATERIAL TOTALISER

- 使用 Modbus 实现数据交换（独立的 RS232 及 RS485 接口）
  MODBUS COMMUNICATIONS (INDEPENDENT RS232 AND RS485 PORTS)

- 系统软件可升级
  FIELD SOFTWARE UPGRADES

- 电源 12-24 Vdc
  12-24VDC POWER SUPPLY

- 系统精度优于 0.01%
  OVERALL ACCURACY BETTER THAN 0.01%

MP2 INDICATOR

- IP54 Facia
- 2.8" (70mm) 彩色液晶显示屏
- 320 x 240 像素
- Polyester film tactile keypad
- 4-20mA output, 1 digital input & 2 digital outputs

MO3 I/O for MP2

- 4 开关量输入
  DIGITAL INPUTS
- 4 开关量输出
  DIGITAL OUTPUTS
- 4-20mA 输入（或 0-10V）
  4-20MA INPUT (OR 0-10V)
- 4-20mA output

应用 APPLICATION

EMC MW93 变重秤系统用于控制经过称重料斗及流量调节器的物料流量，此类系统常用的流量调节器为螺旋输送机或旋转阀。

A MODWEIGH MW93 WEIGHT CHANGE SYSTEM IS USED TO CONTROL THE FLOWRATE OF MATERIAL PASSING THROUGH A WEIGH HOPPER AND FLOW REGULATOR. COMMON FLOW REGULATORS USED FOR THESE SYSTEMS ARE AUGERS OR ROTARY VALVES.

此处理器用于物料由称重料斗传送至流量调节器（失重秤系统）；或物料由流量调节器添加至称重料斗（增重秤系统）的物料流量控制。

THE PROCESSOR IS SUITABLE FOR SYSTEMS WHERE THE FLOW REGULATOR REMOVES MATERIAL FROM A WEIGH HOPPER (WEIGHT LOSS SYSTEM) AND SYSTEMS WHERE THE FLOW REGULATOR ADDS MATERIAL TO THE WEIGH HOPPER (WEIGHT GAIN SYSTEM).

ModWeigh 显示器 MODWEIGH DISPLAY

ModWeigh MW99d4 或 MD1 型流量显示器应用于标定系统及为系统提供准确的称量数据显示。本称重显示器采用图形显示，结合快捷设置菜单，简单易用。

A MODWEIGH FLOWRATE INDICATOR IS USED TO CALIBRATE THE SYSTEM AND PROVIDE A STATUS DISPLAY OF THE OPERATING SYSTEM. IT HAS A GRAPHICS DISPLAY WITH EASY TO USE MENU SELECTION OF SETTINGS.

BULK HOPPER

feed gate

loadcells

WEIGH HOPPER

VSD & MOTOR

mA
mA
PNP
PNP
RS485 COMM

mV
T
RS232 COMM
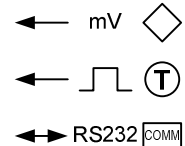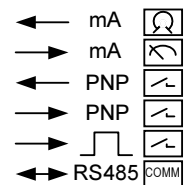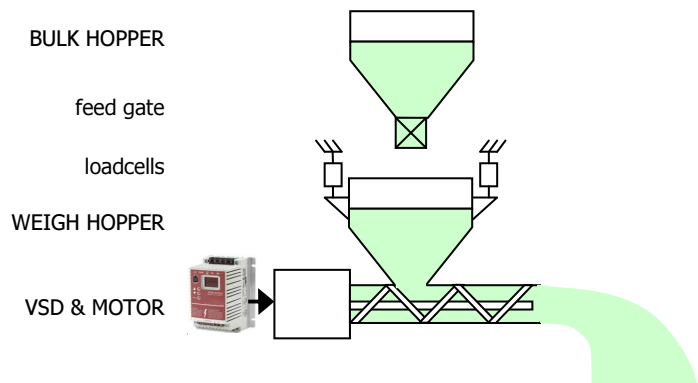
功能特点 FEATURES

基本 BASIC

计量单位及数据采集率 UNITS & RESOLUTION

用户可根据需要在列表中选择公制或英制变量（重量等）单位。可调的变量单位数据采集率，例如，100kg 可显示为 0.2kg 的增量。

THE UNITS FOR EACH VARIABLE TYPE (WEIGHT ETC.) CAN BE SELECTED FROM A LIST OF METRIC AND IMPERIAL UNITS. THE RESOLUTION OF EACH VARIABLE TYPE CAN BE ADJUSTED, THIS ALTERS THE COUNT BY E.G 100KG DISPLAYED IN 0.2KG INCREMENTS.

OIML（国际合法计量组织）设计 OIML DESIGN

本设备按 OIML 认证标准设计制造。

THE INSTRUMENT IS DESIGNED TO OIML STANDARDS.

支持语言 LANGUAGE SUPPORT

提供以下语言支持：英文，中文，韩文，德文，西班牙文，法文，意大利文，即波兰文。

SUPPORT IS AVAILABLE FOR THE FOLLOWING LANGUAGES: ENGLISH, CHINESE, KOREAN, GERMAN, SPANISH, FRENCH, ITALIAN AND POLISH.

输入 INPUTS

开关量输入 INx DIGITAL INPUTS INx

开关量输入可进行编程并匹配一系列功能包括"校零"，"打印"等。

THE DIGITAL INPUTS ARE PROGRAMMABLE TO A RANGE OF FUNCTION INCLUDING 'ACQUIRE ZERO', 'PRINT' ETC.

直接标定 DIRECT CALIBRATION

直接标定是通过使用称重传感器额定量程及灵敏度来标定称重信号。此标定方法的优点是不必使用大测试重量就能快速并准确的标定较大量程的称重系统。

DIRECT CALIBRATION USES THE LOADCELL CAPACITY AND LOADCELL SENSITIVITY TO CALIBRATE THE WEIGHT SIGNAL. LARGE CAPACITY WEIGHING SYSTEMS CAN BE QUICKLY AND ACCURATELY CALIBRATED WITHOUT THE NEED FOR LARGE TEST WEIGHTS.

流量设定点 FLOWRATE SETPOINT

本系统通过流量调节器输出物料，此设定点是操作员想要达到的物料流量输出。操作员可使用显示器键盘进行本地流量控制，或使用模拟信号输入进行远程流量控制。

THE SETPOINT IS THE FLOWRATE OF MATERIAL THE OPERATOR WANTS THE FLOW REGULATOR TO CONVEY. THE MW93 CAN CONTROL TO THE LOCAL SETPOINT, WHICH IS SET USING THE KEYPAD, OR IT CAN CONTROL TO THE OPTIONAL REMOTE ANALOG SETPOINT SIGNAL. THE SECOND ANALOG INPUT AI2 IS REQUIRED FOR A REMOTE ANALOG SETPOINT.

信号过滤 SIGNAL FILTERING

重量信号过滤功能可以在减小秤体震动及仪表反应速度间进行调整以取得最佳折衷点。

FILTERING FOR THE WEIGHT CAN BE ADJUSTED TO GET THE OPTIMUM COMPROMISE BETWEEN REDUCTION OF PLANT VIBRATION AND RESPONSE SPEED.

内部信号 INTERNAL SIGNALS

极限值 LIMITS

最高及最低极限值均可进行设置，编程及匹配操作其它内部信号。

THE HIGH AND LOW LIMITS HAVE ADJUSTABLE SETPOINTS WHICH MAY BE PROGRAMMED TO OPERATE ON ANY INTERNAL SIGNAL.

批量模式 BATCHING

本系统可用于处理物料批量，当批量重量经过称重平台即停止传送带输送。此外，批量校正功能能够通过估计重量的方法，在目标重量达到前停止传送带以确保得到准确的批量。

THE SYSTEM CAN BE USED TO BATCH OUT A DESIRED WEIGHT BY STOPPING THE FEEDER WHEN THE BATCH WEIGHT HAS BEEN TOTALISED. A PRE-ACT IS AVAILABLE TO COMPENSATE FOR OVERRUN.

事件收集 EVENT COLLECTION

系统可收集处理事件并提供给外部设备（PLC 或其它）。

PROCESS EVENTS ARE COLLECTED FOR OPERATION WITH EXTERNAL EQUIPMENT (PLCs ETC.)

循环调控 LOOP CONTROL

系统能够比较实际流量及设定点，PI 控制技术能自动控制马达速度命令信号以保证实际流量满足设定点要求。预给料功能保证了系统能够快速达到流量设定点要求，同时也能对设定点的改变作出迅速反应。

THE PROCESSOR COMPARES THE FLOWRATE WITH THE SETPOINT. A PROPORTIONAL/INTEGRAL (PI) CONTROL TECHNIQUE WITH FEED FORWARD ALTERS THE MOTOR SPEED DEMAND SIGNAL TO MAINTAIN THE FLOWRATE AT SETPOINT. FEED FORWARD ALLOWS THE SYSTEM TO REACH THE DESIRED SET FLOWRATE VERY QUICKLY AND ALSO TO RESPOND TO CHANGES IN SETPOINT RAPIDLY.

容积计量模式 VOLUMETRIC MODE

在一般情况下仪表运行重量称量模式，自动调节速度命令信号以达到流量设定点要求。

NORMALLY THE CONTROLLER OPERATES GRAVIMETRICALLY AND AUTOMATICALLY ADJUSTS THE SPEED DEMAND SIGNAL TO REACH THE REQUIRED FLOWRATE SETPOINT.

在容积模式下，PI 控制是不工作的，速度命令将根据提前进料功能的相应设置计算得出。

IN VOLUMETRIC MODE, THE PI CONTROL IS DISABLED, AND THE SPEED DEMAND IS ESTIMATED USING THE FEED FORWARD SETTINGS.

This allows the system to be kept operating even in the event of a loadcell failure.

高级控制设置 Advanced Control Settings

预给料功能设置可根据设备延迟（传送延迟）进行调整及修正。设置比率可根据设定点信号乘以控制比率百分比获得。

Feed forward settings can be adjusted and corrections for plant delays (transport delay) can be made. A ratio setting is available to multiply the setpoint signal by a percentage for ratio control applications.

料斗再装 Hopper Refilling

系统使用重量设定点及延迟产生进料控制信号。对于失重秤系统，当称重料斗中的物料接近清空时开始喂料再装；对于增重秤系统，当称重料斗接近装满时开启喂料清空。在喂料过程中，系统将处于保持状态，从而使流量读数及电机速度命令保持稳定。当系统处于再装过程且不能测量流量时，流量调节器速度仍能保持稳定。

The processor uses weight setpoints and delays to produce a material feed control signal. In a weight loss system, the feed is opened to refill the weigh hopper from bulk storage when it nears empty. In a weight gain system, the feed is opened to empty the weigh hopper when it nears full. During the filling process, the processor is put into hold during which the flowrate reading and the motor speed demand signal are held constant. This keeps the flow regulator speed constant during refilling when the flowrate can not be measured.

自动保持 Automatic Hold

系统会对料斗重量进行连续监测，从而探测系统在进行喂料或料斗中的物料已被意外清空。在此情况下，流量及速度命令信号将自动保持，直至重量返回至正常值。此功能保证了在料斗受到干扰情况下，系统能够保持连续流量输出。

The hopper weight is continuously monitored to automatically detect that filling is occurring or that the hopper has been accidentally knocked. If this is detected, the flowrate signal and speed demand signal are held constant until the weight returns to normal. This feature ensures that a constant output flowrate is always maintained during a disturbance to the hopper.

自动设置 Auto Setup

为了使设置更为简单，自动设置功能能够计算并自动设置系统中的许多项设置。

To make setting up easier, the auto setup facility allows many settings for the processor to be calculated and set automatically.

记忆存储 Memory Storage

此功能可对一组设定值进行存储，并从存储中恢复设定值。此功能可存储不同的设定值用于不同的用途，系统可提供 20 个存储单元，每个存储单元可存储多达 4 个设定值。

Allows a group of settings to be stored or recalled from memory. This can be used for example to store settings for different products. There are 20 memory locations with up to 4 settings in each.

物料累计量 Material Total

系统累计量计数器能够计算出通过称量系统的物料总量。此累计量可清零，累计量脉冲输出可驱动外接计数器。累计量计数具备低流量切断功能，确保了过低流量不会导致错误计数，累计总重量数据保留不受断电影响。

The processor incorporates a totaliser which totalises the weight of material through the system. The totaliser can be reset to zero. A pulse output is available to operate external counters. A low flow cutout ensures that low flows do not cause false counts. The total is retained after a power failure.

累计量计数器位数可设置为 5，6，7 或 8 位。

The totaliser can be set to operate with 5, 6, 7 or 8 digits.

输出 Outputs

速度命令 Speed Demand

模拟量速度命令输出信号用来驱动外置电机控制器以改变流量调节器速度。

An analog speed demand output signal is used to drive an externally connected motor controller to vary the flow regulator speed.

物料流量 Material Flowrate

模拟输出流量信号可连接至其它设备。

An analog flowrate output signal is available for connection to other instruments.

模拟信号输入/输出缩放比例 Analog I/O Scaling

模拟输出信号可在 0 至 20mA 范围内进行调节。当使用 0 至 20mA 范围时，为达到相对 0 值，输出信号可略为负毫安。电压输出信号可通过在输出上连接电阻器获得。

The analog output range can be adjusted over the full 0 to 20mA range. The output will drive to a slight negative mA, allowing a live zero to be achieved when using a 0 to 20mA range. A voltage output is easily produced by connecting a resistor to the output.

模拟输出信号可任意在仪表内部信号中选择，例如，重量，流量等。

In addition the analog output signal is selectable to come from any internal signal in the instrument e.g weight, flowrate etc.

开关量输出 OUTx Digital Outputs

开关量输出功能能够进行编程以运行任意内部信号。这些信号包括了开关量输入状态，运行条件（运行，暂停等）及检测任何故障情况。此功能使得仪器接驳其它系统变得更简单。

The digital outputs are programmable to operate from any internal signal. These signals include the digital input states, status conditions (running, paused etc) and any fault conditions that are detected. This makes it easy connect into other systems.

通信 & 显示　COMMUNICATIONS & DISPLAY

数据交换　COMMS

本仪表提供独立的 RS232 及 RS485 通信接口，用于连接其它 ModWeigh 系统，或其它设备。例如，ASCII 输出协议可驱动打印机或 Modbus 进行更高层次的交互式通信，波特率及节点地址都可进行编程。

RS232 AND RS485 PORTS ARE AVAILABLE. THESE ARE USED TO CONNECT MODWEIGH UNITS TOGETHER AND ALSO TO CONNECT TO OTHER SYSTEMS. THE PROTOCOL IS EITHER ASCII OUTPUT FOR EXAMPLE TO DRIVE A PRINTER OR MODBUS FOR INTERACTIVE COMMUNICATIONS. BAUD RATES AND NODE ADDRESSES ARE PROGRAMMABLE.

打印及设计功能　PRINTOUTS & MACROS

打印功能可通过按键操作或预设打印时间与周期来实现。数据能够连续输出以作为数据收集用途。打印数据经由 COM1 RS232 接口输出，打印内容可通过打印设计功能进行编辑。

PRINTOUTS CAN BE TRIGGERED BY A KEY PRESS OR SET UP TO OCCUR AT SET TIMES DURING THE DAY OR WEEK. DATA MAY ALSO BE OUTPUT CONTINUOUSLY FOR DATA COLLECTION PURPOSES. DATA IS OUTPUT ON THE COM1 RS232 PORT. THE CONTENT OF THE PRINTOUTS IS FULLY PROGRAMMABLE USING MACROS.

设计功能可被用于自定义打印，也可用来执行算术计算。设计语言也包括更高级的编程条款。

MACROS ARE PROGRAMS USED TO CUSTOMISE PRINTOUTS, BUT CAN ALSO BE USED TO PERFORM ARITHMETIC CALCULATIONS. THE MACRO LANGUAGE ALSO CONTAINS CONDITIONAL TERMS FOR MORE ADVANCED PROGRAMMING.

显示界面自定义　DISPLAY CUSTOMISATION

键锁功能可被用来防止未经许可的仪表操作及限制进入操作菜单。可对任意键进行密码锁定，以防止未经授权的非法操作。当进行按键操作时，系统也可以提醒操作员进行操作确认。操作菜单可增添额外设置项或信号以满足用户自定义要求。

LOCKS MAY BE SET TO PREVENT UNAUTHORISED USE OF THE OPERATOR KEYS AND RESTRICT ENTRY TO THE OPERATOR MENU. THE KEYS ARE INDIVIDUALLY LOCKABLE AND OPTIONALLY A PASSCODE CAN BE USED TO ALLOW AUTHORISED OPERATORS TO USE THE KEYS. ALTERNATIVELY A CONFIRMATION OF THE KEY ACTION CAN BE REQUESTED. THE OPERATOR MENU CAN BE CUSTOMISED TO MAKE ADDITIONAL SETTINGS OR SIGNALS AVAILABLE TO THE OPERATOR.

显示屏显示内容自定义适用于不同现场要求，显示屏既可显示全部参数，也可仅显示基本参数。

THE CONTENTS OF THE MAIN DISPLAY CAN BE SET TO SUIT ANY CONDITION, FROM A COMPREHENSIVE DISPLAY SHOWING ALL OPERATING PARAMETERS TO A SIMPLE DISPLAY SHOWING THE BASIC SIGNALS.

与电脑连接　COMPUTER CONNECTIVITY

ActiveX 控制组件使得 ModWeigh 系统与计算机间的通讯变得更加简单，典型应用是编程及搜集 VB 程序来实现计算机控制。

AN ACTIVEX CONTROL IS AVAILABLE TO ALLOW PROGRAMMERS TO EASILY COMMUNICATE WITH A MODWEIGH INSTRUMENT. TYPICALLY THIS CAN BE USED WITH A VISUAL BASIC PROGRAMME TO COLLECT AND WRITE DATA TO THE CONTROLLER.

Feature Summary

|	Digital Inputs (includes pulse input)	Digital Outputs (includes pulse output)	Isolated Pulse Output	Isolated 4-20mA Inputs	Isolated 4-20mA Outputs	Corner adjustment and balancing for 4 load-cells	Trade approvals (planned)
MP2,MO3	1+4	2+4	✓	1	2	✗	✗
MP2	1	2	✓	0	1	✗	✗

构造原理　CONFIGURATIONS

对于此重力流量称量控制系统，主要有三种构造原理：失重，改良失重，及增重。

THERE ARE THREE PRINCIPLE CONFIGURATIONS FOR GRAVIMETRIC FLOW MEASUREMENT AND CONTROL SYSTEMS. THESE ARE WEIGHT LOSS, MODIFIED WEIGHT LOSS AND WEIGHT GAIN.

全部原理均由相同组件构成：流量调节器及称重料斗。

ALL CONFIGURATIONS HAVE THE SAME BASIC COMPONENTS OF A FLOW REGULATOR AND WEIGH HOPPER.

失重 WEIGHT LOSS

物料料斗

控制阀

称重传感器
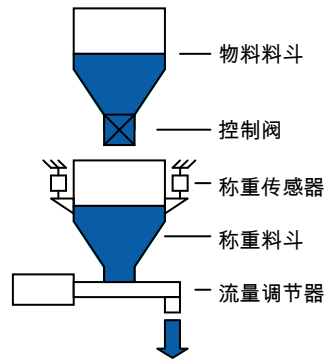
称重料斗

流量调节器

产品特点　FEATURES

- 连续流量　CONTINUOUS FLOW

- 称重料斗与流量调节器相结合　WEIGH HOPPER & FLOW REGULATOR COMBINED

改良失重 MODIFIED WEIGHT LOSS

物料料斗

控制阀

称重传感器
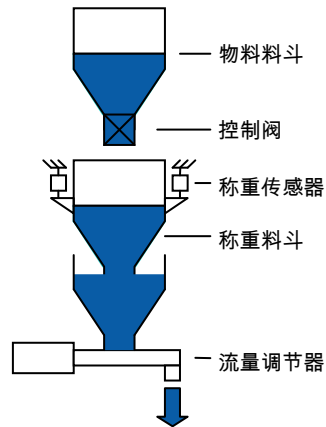
称重料斗

流量调节器

产品特点　FEATURES

- 连续流量　CONTINUOUS FLOW

- 称重料斗与流量调节器相分离，例如，塑料挤压机。 WEIGH HOPPER ISOLATED FROM FLOW REGULATOR COMBINED E.G. PLASTIC EXTRUDERS

增重 WEIGHT GAIN

物料料斗

流量调节器

称重传感器

称重料斗

控制阀

产品特点　FEATURES

- 间歇流量　INTERRUPTED FLOW

- 安装简便　SIMPLE INSTALLATION

- 方便在物料料斗及喂料器已经安装好的情况 IDEAL WHERE BULK HOPPER & FEEDER ALREADY EXIST

流量调节器　Flow Regulators

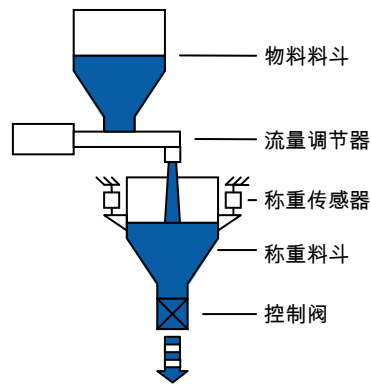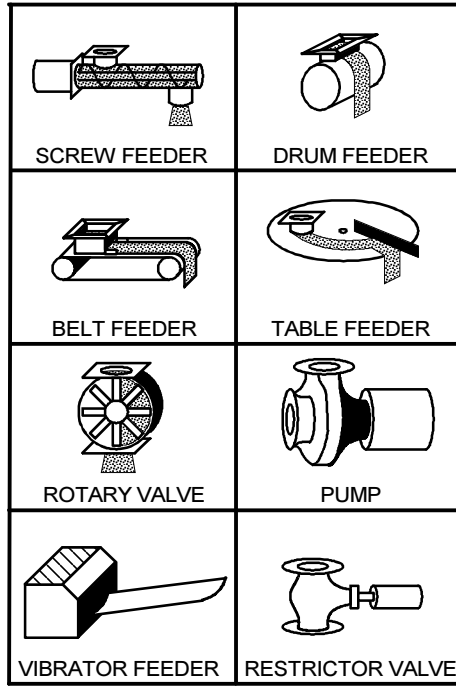|	
SCREW FEEDER	DRUM FEEDER
BELT FEEDER	TABLE FEEDER
ROTARY VALVE	PUMP
VIBRATOR FEEDER	RESTRICTOR VALVE

性能　Performance

决定系统性能的一个重要因素是称量称重料斗的称重传感器量程。以下曲线图标示了系统的有效工作范围，称重传感器量程是所有称重传感器量程的总和，如果系统安装了杠杆结构传感器，则量程须另计。

One factor which determines the performance of a system is the capacity of the loadcell weighing system used to weight the hopper. The following graph gives an indication of the useful operating range that may be used. The Loadcell Capacity is the sum of the capacity of all loadcells, and should take into account any lever system if one exists.
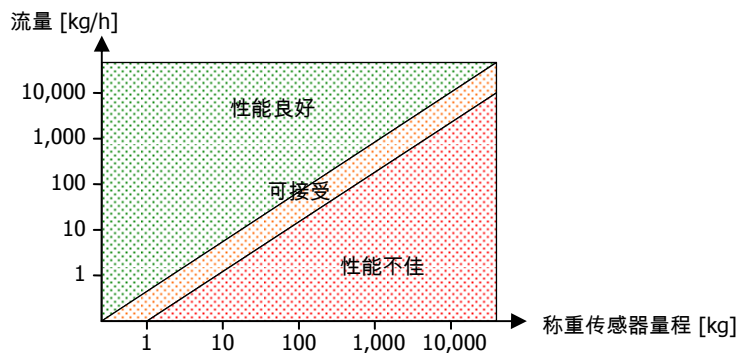
称重系统性能很大程度上取决于系统的可重复性，故理想情况是实现尽可能高的可重复性。可重复性能达到万分之一或十万分之一，系统性能指标可使用以下公式进行计算。

The performance is very dependent on the weighing system repeatability. It is desirable to aim for as high a repeatability as possible. With care, it is possible to achieve weighing repeatability of 1 part in 10,000 to 1 part in 100,000.

一些其它因素也会影响系统性能指标。

Note that other factors may also limit the performance.

注意连接称重料斗的活动接头，粗糙的设计或安装都可能直接影响系统性能。

Watch flexible couplings to the weigh hopper, as these can easily reduce the achievable performance.

高精确度系统还需高重复性的流量调节系统与之相配合，有些物料相对较难进行控制，例如流体化的粉末。

Good accuracy also requires repeatable results from the flow regulator system. Some materials can be difficult to control (for example powders that fluidise)

技术规格说明　Specifications

称重传感器输入　AI1　Loadcell Input

输入范围 Input Range	±4 mV/V (0-20mV)
激励 Excitation	5 Vdc ±20 %, 250 mA 最大电流 (maximum current)

信号处理率 SIGNAL PROCESSING RATE	100 Hz (重量采集时间设定 ≤ 0.5 s) (RESPONSE TIME SETTING)
输入灵敏度 INPUT SENSITIVITY	0.5 µV/最大分度 (DIVISION MAXIMUM)
零值范围 ZERO RANGE	±3 mV/V (±15 mV)
调零温度系数 ZERO DRIFT	±0.02 µV+0.0005 % 典型恒载/°C (of deadload/°C typical)
满量程温度系数 SPAN DRIFT	±0.0005 %/°C 典型 (TYPICAL)
非直线性误差 NON-LINEARITY	‹0.002 % 之 FS (OF FS)
信号输入干扰系数 INPUT NOISE	0.15 µVp-p 典型 (TYPICAL)
滤波设置 FILTERING	0.04 s to 32.0 s 可调重量采集时间 (response time adjustable)
电压灵敏度范围 SENSE VOLTAGE RANGE	1-5 V

模拟量输入 AI2 ANALOG INPUT

4-20mA 输入电阻 4-20MA INPUT RESISTANCE	<60 Ω
0-10V 输入电阻 0-10V INPUT RESISTANCE	›100 kΩ
隔离 ISOLATION	在 50Vac 范围内电气隔离 GALVANICALLY ISOLATED TO 50VAC

模拟量输出 AO1 & AO2 ANALOG OUTPUTS

输出范围 OUTPUT RANGE	0 至 20 mA (-0.2 mA 至 21 mA, includes standard 4-20mA)
最大负载 MAXIMUM LOAD	1000Ω
数据采集率 RESOLUTION	0.4 µA
重量采集时间 RESPONSE TIME	称重传感器反应时间设置 + 20 ms (LOADCELL RESPONSE TIME SETTING)
电压输出 VOLTAGE OUTPUT	使用外置电阻器将电流转换为电压。 USE AN EXTERNAL RESISTOR TO CONVERT MA TO VOLTS. 例如，500Ω 电阻可将 20mA 转换为 10V。 FOR EXAMPLE 500Ω GIVES 10 V AT 20 MA.
非直线性误差 NON-LINEARITY	‹0.01 %
温度系数 DRIFT	‹2 µA/°C.
隔离 ISOLATION	在 50Vac 范围内独立电气隔离
高电压 HIGH VOLTAGE	› 8 V
低电压 LOW VOLTAGE	‹ 4 V
最大电压 MAXIMUM VOLTAGE	32 V
输入负荷 INPUT LOAD	4 kΩ 近似

开关量输入 INx DIGITAL INPUTS (EXCEPT IN0)

高电压 HIGH VOLTAGE	› 8 V
低电压 LOW VOLTAGE	‹ 4 V
最大电压 MAXIMUM VOLTAGE	32 V
输入负荷 INPUT LOAD	6 kΩ近似

	输入类型 INPUT TYPE	PNP 输出传感器 PNP OUTPUT SENSORS

开关量输出　OUTx　(EXCEPT OUT0)

	最大输出电流 MAX OUTPUT CURRENT	$\Sigma\,I_{IOx} < 0.25\ A$
	输出电压 OUTPUT VOLTAGE	与电源电压相同 SAME AS SUPPLY VOLTAGE

接口格式　COM1, COM2　COMMUNICATIONS

	COM1 连接 COM1 INTERFACE	RS232
	COM1 同步交换 COM1 HANDSHAKE	CTS 能够使用　CAN BE ENABLED
	COM2/COM3 连接 COM2/COM3 INTERFACE	RS485
	波特率 BAUD RATES	9600, 19200, 38400, 57600, 115200 (230400 开启 COM2)
	设置 SETTINGS	8 位数据，无奇偶，2 停止位(8-N-2) 8 DATA BITS, NO PARITY, 2 STOP BITS (8-N-2)
	协议 ON	Modbus RTU (MWBUS 开启 COM2)

基本规格　GENERAL

	IP 等级 FACIA	IP20 (MP2 facia IP54)
	工作温度 OPERATING TEMPERATURE	-10 至 45 °C
	电源电压 SUPPLY VOLTAGE	10 至 32 Vdc
	电源 MP2 TO	1.4 至 3.1 W
	电源 MP2 + MO3 TO	$3.4\ 至\ 5.0\ W + P_{OUTx} + P_{Tacho\ Excitation}$
	MP2 Restrictions	$P_{Loadcell\ Excitation} + P_{AO1} + P_{AO2} < 1.5\ W$ $I_{Supply} < 0.5\ A$

仪表尺寸　DIMENSIONS

以下是整套控制系统所需仪表组件的安装尺寸。
FOLLOWING ARE THE DIMENSIONS OF THE HARDWARE ITEMS THAT MAKE UP THE SYSTEM.

显示器/控制仪设计为电控箱内安装。
THE DISPLAYS/PROCESSORS ARE DESIGNED FOR PANEL MOUNTING.

MP2 Processor

PANEL cut out
138 x 67 mm
-0.0 + 1.0 mm

72mm

144mm

FACIA
144 x 72 mm

100mm

9mm

top view
approx. 400g
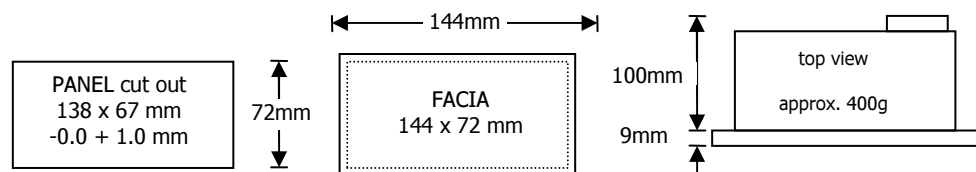
线路连接　CONNECTIONS

连接原理　CONNECTION PRINCIPLES

ModWeigh 仪表可以多种不同方式连接以适应不同现场要求。
MODWEIGH INSTRUMENTS CAN BE CONFIGURED IN MANY DIFFERENT WAYS TO SUIT ANY GIVEN APPLICATION.

Connection Diagram – MP2

所有信号传输电缆须与电力供
应电缆分开配线 Keep all wiring
separated from mains wiring

在标明处使用屏蔽电缆 Use
shielded cable where indicated

使用 RUN 运行输入或 RUN
MOTOR 运行马达输出 Either
the RUN input or the RUN MOTOR output
should be used

MP2
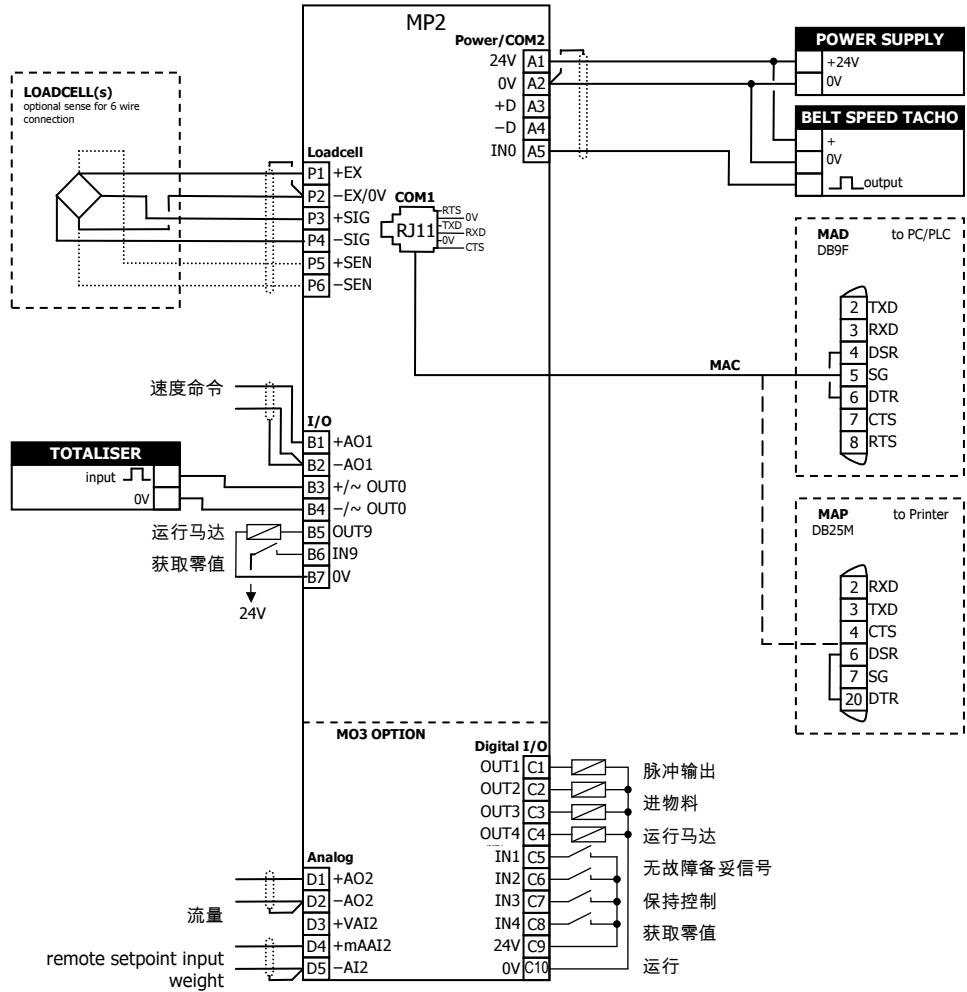
LOADCELL(s)
optional sense for 6 wire
connection

Loadcell
P1	+EX
P2	−EX/0V
P3	+SIG
P4	−SIG
P5	+SEN
P6	−SEN

COM1
RJ11
RTS — 0V
TXD — RXD
0V — CTS

Power/COM2
24V	A1
0V	A2
+D	A3
−D	A4
IN0	A5

POWER SUPPLY
+24V
0V

BELT SPEED TACHO
+
0V
⎍ output

MAC

MAD   to PC/PLC
DB9F
2	TXD
3	RXD
4	DSR
5	SG
6	DTR
7	CTS
8	RTS

速度命令

I/O
B1	+AO1
B2	−AO1
B3	+/~ OUT0
B4	−/~ OUT0
B5	OUT9
B6	IN9
B7	0V

TOTALISER
input ⎍
0V

运行马达
获取零值

24V

MAP   to Printer
DB25M
2	RXD
3	TXD
4	CTS
6	DSR
7	SG
20	DTR

MO3 OPTION

Digital I/O
OUT1	C1	脉冲输出
OUT2	C2	进物料
OUT3	C3	运行马达
OUT4	C4	
IN1	C5	无故障备妥信号
IN2	C6	保持控制
IN3	C7	获取零值
IN4	C8	运行
24V	C9	
0V	C10	

Analog
D1	+AO2
D2	−AO2
D3	+VAI2
D4	+mAAI2
D5	−AI2

流量

remote setpoint input
weight

订货 System Ordering

标准的 ModWeigh 系统是由一组不同的部件所组成。可以不同方式组成系统，但大部分应用都是从以下标准系统配置中进行选择。在订货时，须说明系统订货编号；如单独订购组件，则须说明所需部件名称。

A MODWEIGH SYSTEM IS A GROUP OF MODWEIGH PARTS THAT TOGETHER FORM THE SYSTEM. MANY POSSIBLE SYSTEMS CAN BE CREATED, BUT MOST APPLICATIONS WILL USE ONE OF THE SYSTEMS LISTED BELOW. WHEN ORDERING, JUST SPECIFY THE SYSTEM ORDER CODE. TO CREATE A CUSTOM SYSTEM, SPECIFY THE INDIVIDUAL COMPONENTS REQUIRED.

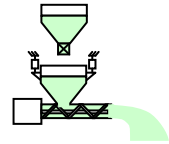| 变重秤系统	System Order Code
Product Key, Processor, IO	**MK93A,MP2,MO3**

订购部件 Parts Ordering

以下是莫得威系统的部件订货编号列表。

FOLLOWING IS A LIST OF ORDER CODES FOR THE INDIVIDUAL PARTS OF A MODWEIGH SYSTEM.

The order code (and options) are shown below.

产品

select one of the following	
Product Key	**MK93A+CG**

Special Options

select any (or none) of the following	
Chinese manuals	**,CH**
Korean manuals	**,KO**
German manuals	**,DE**
Spanish manuals	**,ES**
French manuals	**,FR**
Italian manuals	**,IT**
Polish manuals	**,PL**
No manuals	**,NM**
Manufacturing certificate	**,MC**

Processor

select one (or none) of the following	
Loadcell processor	**,MP2**

IO Option

select one (or none) of the following	
digital IO - 4In 4Out, 1 x 4-20mA input & output	**,MO3**

附件

select one (or none) of the following	
RJ12 连线 2m (COM1 连线）	,MAC
RJ12 9 针 D-connector 适配器(ModWeigh 与 PC 连接)	,MAD
RJ12 25 针 D-connector 适配器(ModWeigh 与打印机连接)	,MAP
RS485 Line Terminator	,MAT

其它 ModWeigh 产品　OTHER MODWEIGH PRODUCTS

MW61 静态秤系统-称重传感器变送器/显示器。适用于平台秤，容器称量及大部分一般称量用途。
WEIGHER SYSTEMS – LOADCELLS INDICATORS. SUITABLE FOR SCALES, VESSEL WEIGHING AND MOST GENERAL WEIGHING APPLICATIONS.

MW94 冲板流量计系统-适用于测量连续流量的冲板计量系统。
IMPACT WEIGHER SYSTEMS – IMPACT WEIGHER PROCESSOR FOR CONTINUOUS FLOWRATE MEASUREMENT.

MW95 皮带秤系统-适用于连续性皮带物料称量系统。
BELT WEIGHER SYSTEMS – BELT WEIGHER PROCESSOR FOR CONTINUOUS FLOWRATE MEASUREMENT.

MW96 配料控制系统-应用于连续物料流量控制与称量。
WEIGHFEEDER SYSTEMS – WEIGHFEEDER PROCESSOR FOR CONTINUOUS FLOWRATE CONTROL APPLICATION OF A WEIGHING CONVEYOR.

联系方式：　CONTACT DETAILS

NEW ZEALAND

EMC INDUSTRIAL GROUP LTD

56 Tarndale Grove, Albany, North Shore, Auckland 0632

PO Box 101 444, North Shore, Auckland 0745, 新西兰

电话 +64-9-415 5110, Fax +64-9-415 5115

电邮 sales@emc.co.nz　　　　　　Web www.emc.co.nz

CHINA

Modweigh 新西兰公司总部（莫得威）New Zealand Contact:

TEL : 136 0026 4320

Email sales@modweigh.com.cn Web www.modweigh.com.cn

由于产品改进，实际功能可能与说明书有所差异。
AS WE ARE CONTINUOUSLY IMPROVING OUR PRODUCTS, CHANGES TO THIS SPECIFICATION MAY OCCUR WITHOUT NOTICE.

(Document Details: g0 g1 g2 g3 g4 g5 g6 g7 g8 g9 g10 g11 g12 g13 g14 g15　MP2))