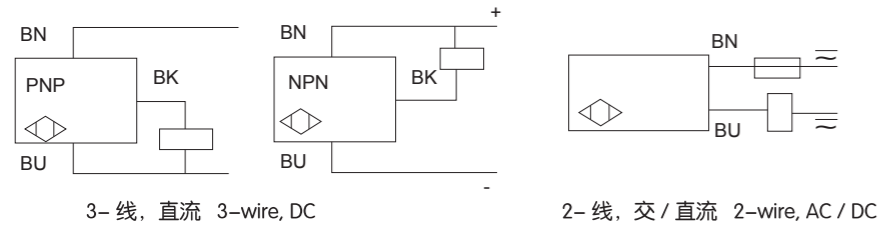


接线图 Wiring diagram



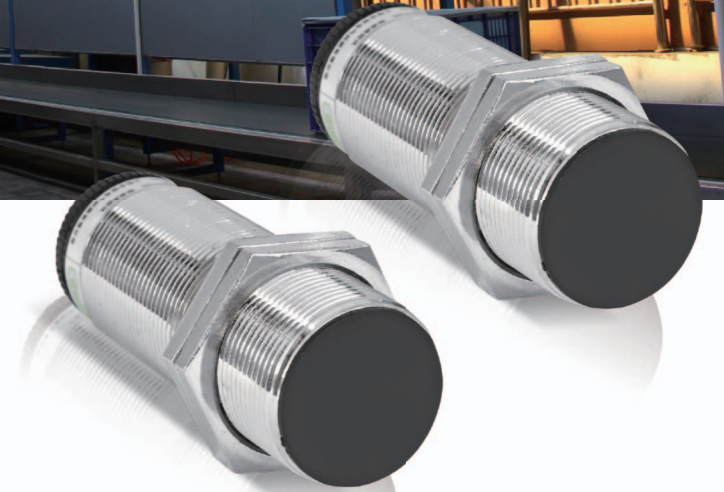
使用范围 Range of use



这个传感器为打滑检测、传送带损坏、传动轴切变与过载、电机保护等问题提供了经济的解决方案。它可应用于以下机器中：传送带、链斗升降机、阿基米德式螺杆、研磨机、粉碎机、水泵、离心式甩干机、混合器、电机等。

This sensor provides an economical solution to problems such as slip detection, conveyor belt damage, drive shaft shear and overload, and motor protection. It can be used in the following machines: conveyor belts, chain bucket elevators, Archimedes screw, grinder, pulverizer, water pump, centrifugal dryer, mixer, motor, etc.

★因产品开发及技术改进等原因，实际销售产品可能与本手册中展示的有所不同，本公司保留相关权利。产品若有改动，恕不另行通知。
Our company will reserve relevant rights about changes of the manual due to development of products and technical improvements.



转速监控仪

俗称测速开关、打滑开关、旋转监控仪、轴过载仪

Speed monitor

Commonly known as speed switch, slip switch, rotation monitor, shaft overload meter

qwifm 上海本焯 (xuān) 电气科技有限公司
SHANGHAI NATURE BEYOND ELECTRIC TECHNOLOGY CO.,LTD

上海市闵行区新龙路 1333 弄 108 号
(万科·虹桥云)

No. 108th, Lane 1333, Xinlong Road, Minhang,
Shanghai (Vanke Hongqiao Cloud)

电话 (Tel): 0086-21-6610 1687 0086-21-5308 1687

手机 (Mobile): 0086-139 1682 4787

传真 (Fax): 0086-21-5308 2129

E-mail: qwifm@qwifm.com Http://www.qwifm.com

上海本焯电气科技有限公司
SHANGHAI NATURE BEYOND ELECTRIC TECHNOLOGY CO.,LTD

转速监控仪 Speed monitor

(俗称测速开关、打滑开关、旋转监控仪、轴过载仪)

(Commonly known as speed switch, slip switch, rotation monitor, shaft overload meter)



功能及外形

该传感器具有一体化的集成式转速监控功能：在同一个外壳中有脉冲识别、检测、和处理器，同时对脉冲信号进行输出、转换、驱动放大等能力；外形可见下图：它的外壳主要是直径30mm，长度72mm(螺纹部分65mm，标牌处7mm)的铜壳和1mm厚度的塑料头子及6mm厚度的塑料尾子(带有动作指示灯和调节转速的电位计)组成；具有转速监测灵敏度高，使用方便、防水、防污等功效。

工作原理

该传感器通过尾部的转速调节电位器预置好频率 f_t (转速)，当待监控运动部件(主要是铁、铜等)在距离传感器头部10mm以内以一定频率 f_c (转速)旋转时，该传感器内部通过磁感应产生相应脉冲信号并输入到控制电路中，经电路放大、整形后进行计数；然后获得的计数值得待监控运动部件的旋转频率 f_c (转速)与事先预置好的频率 f_t (转速)进行比较。如果 $f_c > f_t$ ，那么传感器就产生一个信号促使开关或继电器闭合状态；如果 $f_c < f_t$ ，那么传感器就产生另一个信号促使开关或继电器断开状态；

使用说明

该传感器在刚通电后延时9秒(开关或继电器闭合状态)启动，以允许被监控对象有一个启动过程。延时启动后，如果传感器尾部的动作指示灯不亮，说明被监控对象旋转频率(转速)低于传感器预置好的频率(转速)，那么传感器或继电器处于断开状态，此时可将传感器尾部的调节转速的电位计逆时针缓慢旋转调节螺丝，使动作指示灯变亮，传感器或继电器又处于闭合状态；反之，延时启动后，传感器尾部的动作指示灯一直亮，说明被监控对象旋转频率(转速)高于传感器预置好的频率(转速)，那么传感器或继电器处于闭合状态，此时可将传感器尾部的调节转速的电位计顺时针缓慢旋转调节螺丝，可使动作指示灯不亮，传感器或继电器又处于断开状态。

通常在实际使用中，要将传感器或继电器处于断开状态，都是使传感器预置好的频率(转速)设置为监控对象正常运行时的旋转频率(转速)的80%。

Function and appearance

The sensor has an integrated speed monitoring function: there are pulse recognition, detection, and processor in the same shell, and the ability to output, convert, drive and amplify the pulse signal at the same time; the shape can be seen in the following figure: its shell is mainly composed of a copper shell with a diameter of 30mm and a length of 72mm (thread part 65mm, 7mm at the label) and a plastic head of 1mm thickness and a plastic tail of 6mm thickness (with an action indicator and a potentiometer to adjust the speed); with speed monitoring sensitivity High, easy to use, waterproof, anti-fouling and other effects.

Working principle

The sensor uses the tail speed adjustment potentiometer to preset the frequency f_t (speed). When the moving parts (mainly iron, copper, etc.) to be monitored rotate at a certain frequency f_c (speed) within 10 mm from the sensor head, the sensor Corresponding pulse signals are generated internally through magnetic induction and input into the control circuit. After the circuit is amplified and shaped, the count is performed; then the count value obtained is the rotation frequency f_c (speed) of the moving part to be monitored and the preset frequency f_t (speed) Compare. If $f_c > f_t$, then the sensor generates a signal to cause the switch or relay to close; if $f_c < f_t$, then the sensor generates another signal to cause the switch or relay to open;

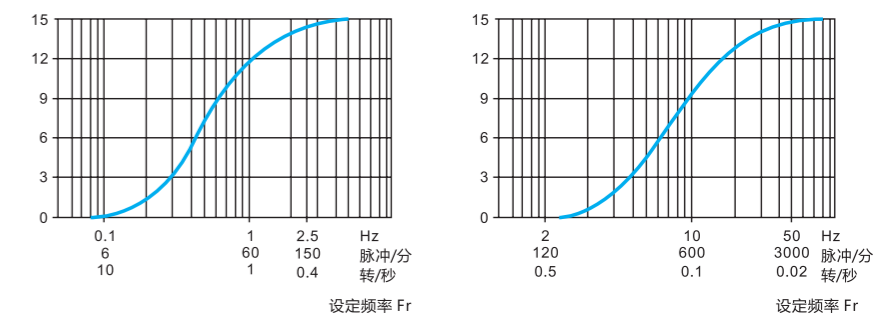
Instructions for use

The sensor is activated for 9 seconds (switch or relay closed state) immediately after power-on to allow the monitored object to have a starting process. After the delay start, if the action indicator at the end of the sensor does not light, it means that the rotation frequency (speed) of the monitored object is lower than the preset frequency (speed) of the sensor, then the sensor or relay is in the disconnected state. The potentiometer that adjusts the speed of the tail slowly rotates the adjustment screw counterclockwise to make the action indicator light, and the sensor or relay is closed; on the contrary, after the delay start, the action indicator light at the end of the sensor is always on, indicating that the monitored object rotates if the frequency (rotation speed) is higher than the preset frequency (rotation speed) of the sensor, then the sensor or relay is in the closed state. At this time, the potentiometer at the rear of the sensor that adjusts the rotation speed can be slowly rotated clockwise to make the action indicator light off. , The sensor or relay is off again. Usually in actual use, if the sensor or relay is in the off state, the preset frequency (speed) of the sensor is set to 80% of the rotation frequency (speed) of the monitored object during normal operation.

工作原理 Working principle

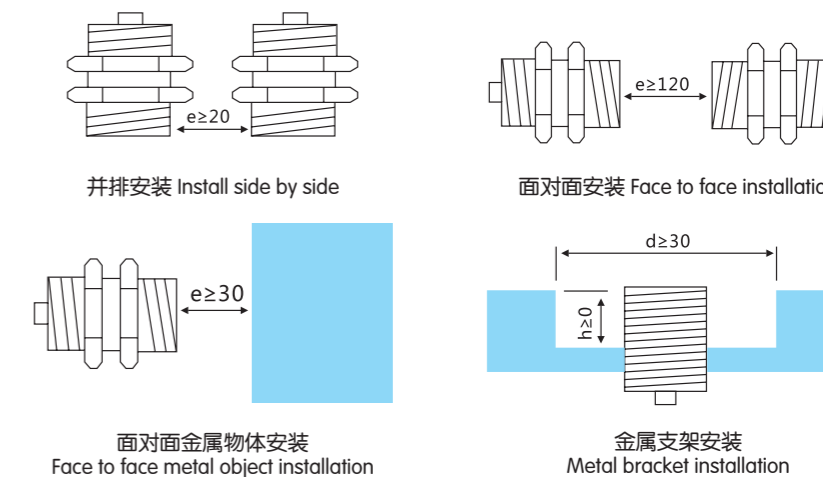
类型 Types		直流 PNP DC PNP	直流 NPN DC NPN	直流两线 DC two wires	交流两线 AC two lines	交直流两线通用 AC and DC two-wire universal
特性 characteristic						
额定感应距离 (sn)	Rated sensing distance (sn)	10mm	10mm	10mm	10mm	10mm
可调频率范围	Adjustable frequency range	6-150 脉冲 / 分、20-999 脉冲 / 分、120-3000 脉冲 / 分、480-12000 脉冲 / 分 6-150 pulses / min, 20-999 pulses / min, 120-3000 pulses / min, 480-12000 pulses / min				
重量 (kg)	Weight (kg)	0.300	0.300	0.300	0.300	0.300
连接方式	Connection method	成型电缆, 3 × 0.34mm ² , 2m 长 Molded cable, 3 × 0.34mm ² , 2m long		成型电缆, 2 × 0.5mm ² , 2m 长 Molded cable, 2 × 0.5mm ² , 2m long		
防护等级根据	Degree of protection according to IEC 60529	IP67				
动作范围	Range of motion	0..8mm				
重复精度	Repeat accuracy	实际检测距离 S_r 的 3% 3% of the actual detection distance S_r				
检测精度	Detection accuracy	设定频率 F_r 的 3...15% 3 ... 15% of the set frequency F_r				
运行温度	Operating temperature	- 25... + 70°C				
输出状态指示	Output status indication	LED				
额定电压	Rated voltage	直流 12...48V 带极性反接保护 DC 12 ... 48V with reverse polarity protection		~ 24...240V	交直流 24...240V AC / DC 24 ... 240V	
电压范围 (包括脉动)	Voltage range (including pulsation)	直流 10...58V				
开关容量	Switching capacity	≤ 200mA, 带过载和短路保护 With overload and short circuit protection		~ 5...350mA	直流 5...200mA DC 5 ... 200mA	
通态压降	On-state voltage drop	≤ 1.8V		≤ 5.7V		
漏电流	Leakage current	≤ 1.5mA				
空载电流损耗	No-load current consumption	≤ 15mA				
最大开关频率	Switching frequency	48,000 脉冲 / 分 48,000 pulses / min				
上电延迟	Power-on delay	9 ± s20%+1/Fr				

电位计调整曲线及安装 Potentiometer adjustment curve and installation



低温型 (6...150 脉冲 / 分) Low temperature type (6 ... 150 pulses / min)
高温型 (120...3000 脉冲 / 分) High temperature type (120 ... 3000 pulses / min)

安装方式 Installation method



面对面金属物体安装 Face to face metal object installation
金属支架安装 Metal bracket installation