HAUBER ELEKTRONIK

Vibration Control
Type 677

Standard

Instruction Manual

English

Instruction Manual

Vibration Control
Type 677

Standard

Edition: 18.10.10

Attention!
Before Start-Up Procedure the Instruction Manual must be read and understood!

Should any question arise, please contact:

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Content

1 Safety Instructions

In General

The safety instructions serve the protection of persons and things from damage and danger that arise from not intended use and further misuse of products especially in explosion endangered areas. Therefore read the instruction manual carefully, before working with or starting-up the product. To the operating personnel the instruction manual has to be accessable anytime.

Before the starting-up or miscellaneous works with the product please check, wether all the documents are available completely. If not all the documents are committed completely or futher copies are required, they can be obtained in different languages.

Our product is designed to the latest state of the art. Nevertheless there are a number of residual risks. This means that each person in the operators firm, concerned with mounting and dismounting, installation, start-up, operating or maintanance of the product, has to have read and understood the instruction manual.
This means furthermore that each person in the operators firm, concerned with mounting and dismounting, installation, start-up, operating or maintanance of the product, has to be an authorized expert, familiar with the safety instructions for handling electrical components. For handling ATEX-certified products within explosion endangered surroundings the expert in addition has to be familiar with the safety instructions relevant there.

Used Symbols

This symbol indicates an explosion hazard.

This symbol indicates a risk from electrical current.

This symbol indicates a (non-safety relevant) information.

2 Instruction Manual Scope

The present instruction manual of the Vibration Control Type 677 is applicable for the variant: Standard.

3 The Vibration Control Type 677 Standard

The Vibration Control Type 677 ist applied for measurement of machines absolute bearing vibration, referring to DIN ISO 10816. The Measurement parameter is the root mean square (rms) of the vibration velocity, the unit is mm/s. The Control is equipped with two switching outputs. After reaching a pre-set switching threshold and a pre-set delay the outputs switch from 24 V to 0 V (GND). It remain locked until a Reset. Another curret-output provides values between 4...20 mA, proportionally to the measuring-range.

4 Intended Use

The Type 677 exclusively serves for the measurement of mechanical vibrations of machines and mechanical facilities. The operation is valid exclusively within the specifications mentioned in this manual. **Main areas of application:** Industrial fans, ventilators, blowers, electric motors, pumps, centrifuges, seperators, generators, turbines, and similar, oscillatory mechanical equipment.

5 Documents and Certificates

Following Type 677 Document can be consulted on www.hauber-elektronik.de:

- EC-Conformity-Declaration

6 Application Fields

Variant	Application Fields	Labelling
Standard	None explosion endangered Areas	none

7 Delivery Contents

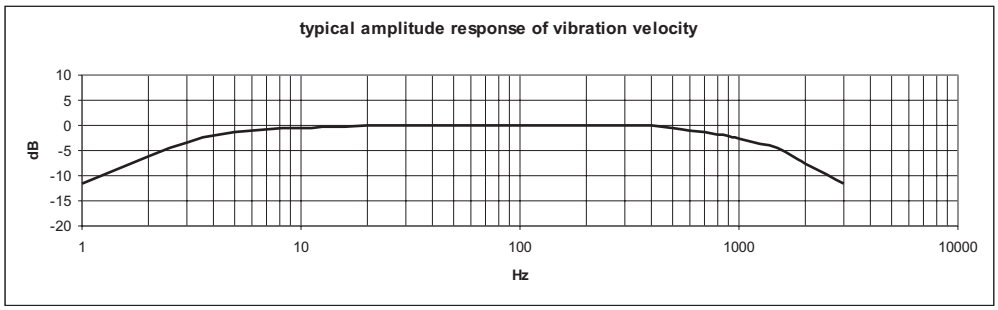
Variant	Delivery Contents
Standard	• Vibration Control Type 677 • Instruction Manual
Available Supplies	• Various Adapters, e.g. M8 -> M10 • Allocable Mating Connector • Connection Cable, M12-Socket, 5-pole, 0,34 mm² • L= 2 m, 5 m or 10 m or on request • Magnet Foot

8 Electrical Data

Before Starting-Up the Control, the voltage supply must be secured with a microfuse (time delay; 1,25 A; breaking capacity C)!

Switching-Signal Outputs:	2 x Transistor-Switching-Contact, short-circuit proof, 24 V DC, I_{max} = 0,5 A
Switching States:	24 V DC a) Switching Threshold not exceeded b) Switching Threshold exceeded and delay not expired 0 V / GND Switching Threshold exceeded and delay expired
Switching Threshold 1 and 2:	To be defined by the customer within the wished measuring range. *Example: Measuring Range: 0...16 mm/s* *Switching Threshole 1: 5 mm/s,* *Switching Threshole 2: 10 mm/s*
Delay 1 and 2:	To be defined by the customer. *Example: Delay 1: 5 s* *Delay 2: 10 s*
Self-Lock and Reset:	The Switching-Signal Outputs have a “Self-Lock”. I.e., after switching it remain on GND. Reset is done by applying the voltage supply once again.
Current-Output:	4...20 mA
Measuring accuracy:	± 5%
Frequency range:	10 Hz...1000 Hz
Voltage supply:	24V DC ±10%
Power input (max.):	1,05 A
Shock (max.):	1000 g
Burden/Load:	500 Ω
Fusing:	Microfuse (Time delay; 1,25 A; breaking capacity C)
Ambient Temperature (max.):	-20° C...+60° C
Measuring-head Temperature at the fixing (max.):	-40° C...+85° C optional: -40° C...+125° C

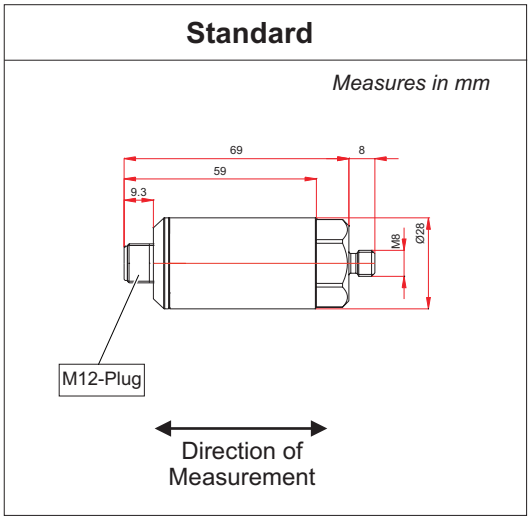
Frequency Response - 10 HZ...1000 Hz



9 Mechanical Data

Housing Material:	Stainless Steel V2A; material no: 1.4305
M12-connector / cable gland:	CuZn (brass), nickel plated
Fastening:	Wrench Size: 24 (hexagon), M8 x 8
Securing:	The housing must be earthed via the M8 fastening (see chapt.11).
Weight:	ca. 150 g
Protection Style:	IP 67

Housing Dimensions and Direction of Measurement

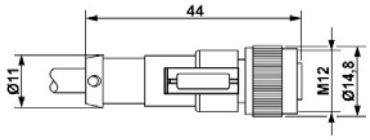


Housing Dimensions and Direction of Measurement: Standard

Note: Direction of Measurement = Direction of Fastening

10 Connections

Connection Cable Socket
(Supplies)

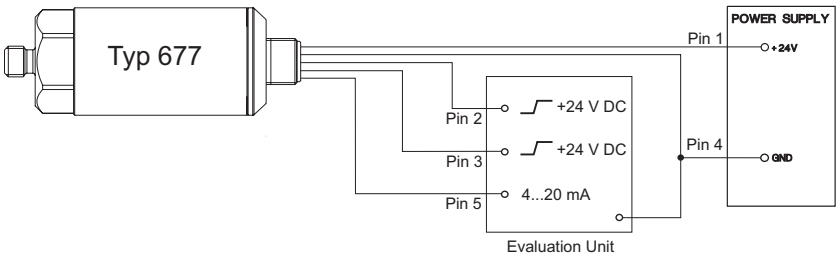


Connection Cable Socket, M12, 5-pol., 0,34 mm²

Connection Cable
(Supplies)

PUR-sheathed-cable, 5-pole, 0,34 mm², L= 2 m (Standard)

Connection Plan



Connection Plan: Type 677 with Evaluation Unit and Power Supply

Pin Assignment

Pin	Assignment	Signal
1	Power Supply	+24 V DC
2	Switching-Sig.-Output 2	⎍ +24 V DC
3	Switching-Sig.-Output 1	⎍ +24 V DC
4	GND	0 V
5	Current Output	4…20 mA

Pin Assignment: Pin-Numbers, Assignment and Signals

11 Mounting and Dismounting

Mounting and Dismounting works at and with the Control may only be executed by an authorized expert, familiar with the safety instructions for handling electrical components. For handling ATEX-certified Controls within explosion endangered surroundings the expert in addition has to be familiar with the safety instructions relevant there.

Before mounting and dismounting works the Control has to be seperated from the mains! Seperated plug and socket devices always have to be disconnected from the mains! Otherwise danger of explosion because of sparkling, when operating ATEX-certified Controls in explosion endangered areas!

The Control housing must be earthed via ist fastening - i. e. via machine earth or via a seperate earth wire (PE)!

Fastening at the Mounting Surface

Preconditions

- Mounting surface clean and flat, i.e. free from paint, rust, etc.
- Threaded hole at the Mounting surface:
  Depth: 10 mm
  Thread: M8

Tools and Materials

- Allen wrench, SW24

Working Steps

- Tighten Control **friction-locked** into the threated hole of the mounting surface.

To obtain exact measuring values, the Control has to be tighten **friction-locked** at the mounting surface!

Avoid Auxiliary Constructions! If unavoidable, implement it as stiff as possible!

12 Installation and Start-Up

Installing and starting-up the Control may only be executed by an authorized expert, familiar with the safety instructions for handling electrical components. For handling ATEX-certified Controls within explosion endangered surroundings the expert in addition has to be familiar with the safety instructions relevant there.

Prior to starting-up the Control, the mains must be secured with a microfuse (time delay; 1,25 A; breaking capacity C)!

The connection cable and possible extension cables must be protected against electrical influenzes and mechanical damages. Here local regulations and commissions absolutely have to be considered.

13 Maintenance and Repair

Repairing the Control may only be executed by an authorized expert, familiar with the safety instructions for handling electrical components. For handling ATEX-certified Controls within explosion endangered surroundings the expert in addition has to be familiar with the safety instructions relevant there.

Prior to repair and cleaning works the Control has to be seperated from the mains! Seperated plug and socket devices always have to stay disconnected from the mains! Otherwise danger of explosion because of sparkling, when operating ATEX-certified Controls in explosion endangered areas!

Defective connection cables immediately have to be replaced! Otherwise danger of explosion because of sparkling, when operating ATEX-certified Controls in explosion endangered areas!

A defective Control has to be changed completely!

Note: The Type 677 is maintenance free!

Errortable

Error	Cause	Activity
No Switching Operation No Measured Value (4…20 mA)	No Power Supply	Check Power Supply and/or Connection Cable
	Connection Cable interrupted	Replace Connection Cable
	Fuse defective	Replace Fuse
	Connection wrong Polarity	Provide correct Polarity
	Control defektive	Replace Control
Switching Operation at the wrong Switching Threshold	Control mounting not friction-locked	Mount Control friction-locked
	Control mounting at wrong position	Mount Control at correct postion