

# WEFTMASTER® FALCON-i

## Optical Yarn Defects Sensor

### Fitting and Service Manual



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# 1 General

## 1.1 About this Manual

### 1.1.1 General

This manual assures a safe and efficient handling of the optical yarn defects sensor FALCON-i.



*For your safety in case of any insecurity, please contact your supplier.*

### 1.1.2 Obligation to Read

The personnel is obligated to read and understand these instructions, specifically the safety instructions, prior to all works.

### 1.1.3 Depository

This manual is an integral part of the optical yarn defects sensor FALCON-i and must be deposited within striking distance to the installation and available to the personal at all times.

In case of a resale of the installation this manual must be included.

## 1.2 Explanation of Symbols

In these instructions, safety information is marked with symbols and signal words which point out the extent of the hazard.

The safety information has to be strictly observed to prevent accidents, personal injuries and damage to property.

### 1.2.1 Symbols



General hazard



Electrical hazard



Flammable



Property damage

### 1.2.2 Signal Words

#### **DANGER**

Indicates an imminently hazardous situation which will result in death or serious injury.

#### **WARNING**

Indicates a potentially hazardous situation which could result in death or serious injury.

#### **CAUTION**

Indicates a potentially hazardous situation which may result in minor or moderate injury.

#### **ATTENTION**

Indicates a potentially hazardous situation which may result in damage to property.

### 1.2.2 Tips and Hints



Useful tips and recommendations

### 1.3 Liability

#### 1.3.1 Information within this Manual

Information and safety instructions within this manual have been implemented under consideration of valid standards and guidelines as well as the current state-of-the-art based on our long-standing experience.

#### 1.3.2 Delivery

Besides the contractual obligations terms of business and delivery by the supplier apply.

#### 1.3.3 Technical Modifications

Loepfe Brothers Ltd. herewith excludes liability for damages and accidents due to following occurrences:

- Unauthorized rebuilds or modifications of the optical yarn defects sensor
- Usage of unauthorized spare parts / reproductions / modification parts not provided by Loepfe Brothers Ltd.

#### 1.3.4 Improper Application or Usage

Loepfe Brothers Ltd. herewith excludes liability for damages and accidents due to following occurrences:

- Usage not according to intended purpose of the equipment
- Failure to observe the information given within this operation manual

#### 1.3.5 Inadequate Maintenance

Loepfe Brothers Ltd. herewith excludes liability for damages and accidents due to following occurrences:

- Deferred or inadequate maintenance
- Not following the instructions described in chapter "Maintenance"



## 2 Safety

### 2.1 Responsibilities

The customer must rule the responsibilities for installation, operation and maintenance of the optical yarn defects sensor FALCON-i and appoint relevant persons in charge.

### 2.2 Personnel Requisitions

#### 2.2.1 Inadequate Qualifications



**WARNING**

**Inadequate qualifications may cause serious injury and material damage!**

▷ *Installation, operation and maintenance shall only be conducted by qualified technical staff.*

#### 2.2.2 Qualified Personnel

Following qualifications are listed in this manual for the different task areas:

- **Foreman** and **User** are qualified and trained staff for the operation and maintenance of the optical yarn defects sensor.
- **Installation Engineer** and **Service Engineer** are qualified personnel being familiar with all safety checks, installation and service guidelines.
- **Repair Technician** is a qualified and trained employee of Loepfe Brothers Ltd. or a technician specifically appointed therefore by Loepfe Brothers Ltd.

### 2.3 Usage

#### 2.3.1 Designated Use

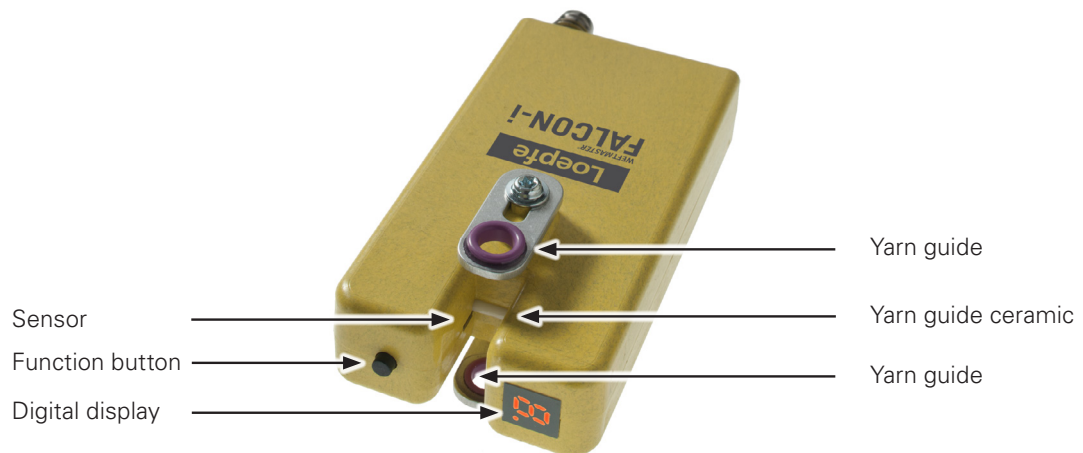
The optical yarn defects sensor FALCON-i is designed and constructed for the detection of yarn defects, knots, loops and impurities in weaving.

The optical yarn defects sensor FALCON-i must be installed and operated in compliance with the provisions listed in installation and operating instructions.



## 3 Installation and Startup

### 3.1 General



### 3.2 Safety

Installation and start-up may only be performed by authorized and trained personnel.



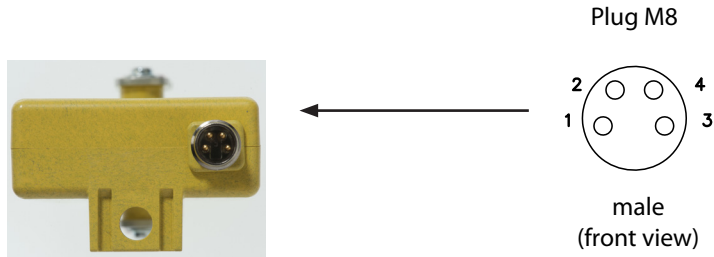
#### WARNING

#### Risk of injuries!

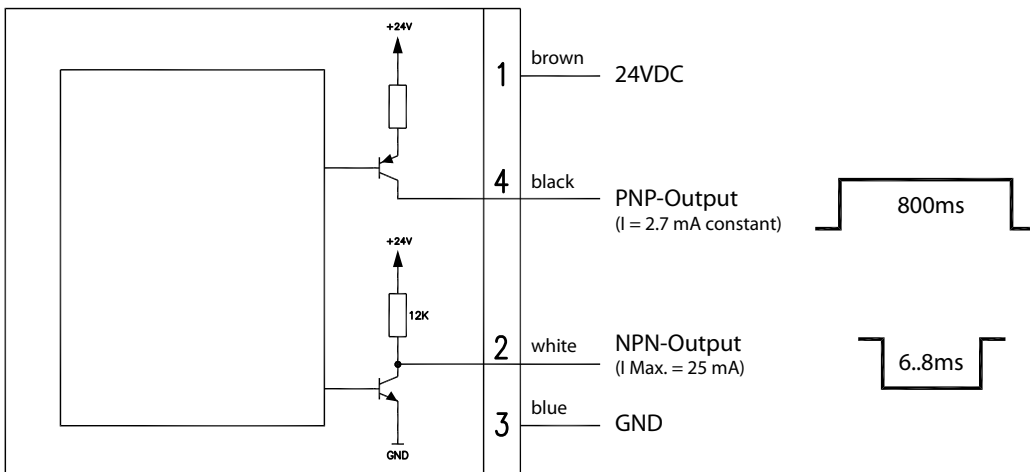
Work on the running machine may lead to severe personal injury.


- ▷ Stop the machine and wait until the machine has come to complete standstill.
- ▷ Only perform work on electrical components when these are switched off, disconnected from the mains and potential-free.
- ▷ Prior to start-up verify if all appropriate covers are mounted.
- ▷ Prior to start-up perform safety check.

### 3.3 Connections



### 3.4 Connection Diagram





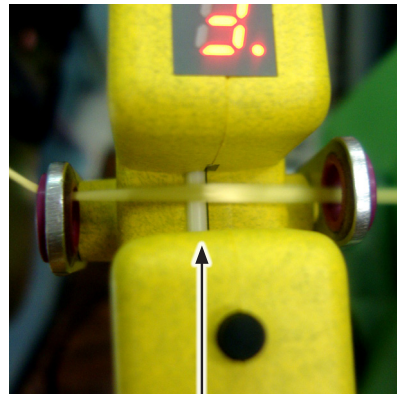
**Risk of fatal injury from electric current!**

**DANGER** ▷ External circuits shall be double insulated from mains.

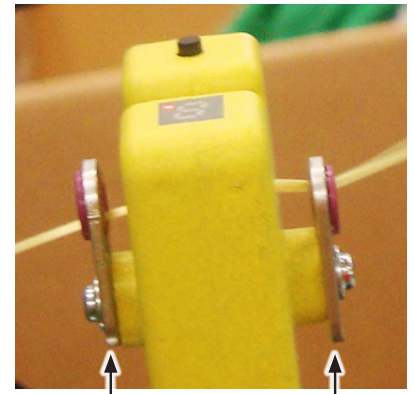
### 3.5 Mounting and Adjustment

When mounting the optical yarn defects sensors FALCON-i, the following must be observed:

- Do not position the equipment such that it is difficult to disconnect the M8 plug.
- The yarn should run as smoothly as possible through the sensor.
- The yarn must be slightly deflected by the white ceramic yarn guide (1).
- By moving the outer yarn guide (2), an additional yarn calming can be achieved.



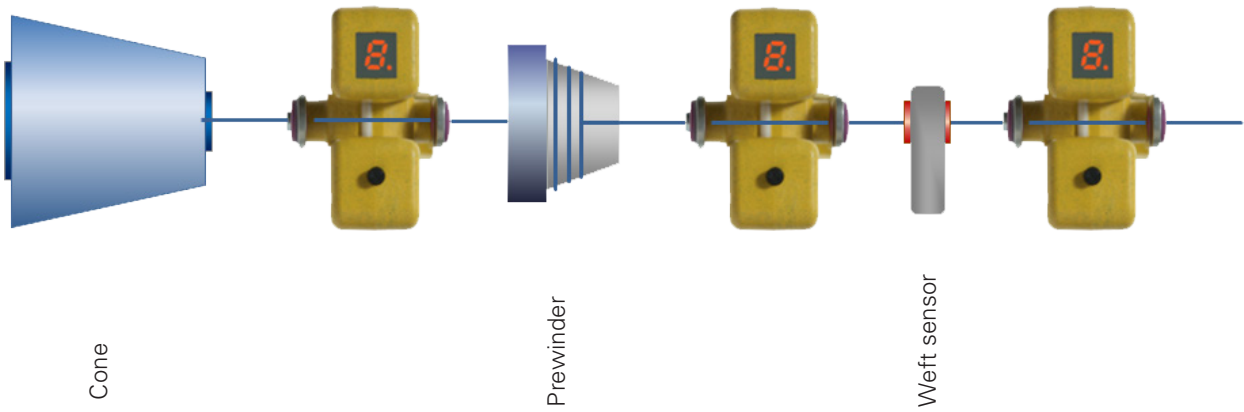
1



2

2

### 3.6 Possible Mounting Positions



## 4 Service

### 4.1 Safety

Servicing may only be performed by authorized and trained personnel.



#### WARNING

#### Risk of injuries!

Work on the running machine may lead to severe personal injury.

- ▷ *Stop the machine and wait until the machine has come to complete standstill.*
- ▷ *Only perform work on electrical components when these are switched off, disconnected from the mains and potential-free.*
- ▷ *Prior to start-up verify if all appropriate covers are mounted.*
- ▷ *Prior to start-up perform safety check.*

### 4.2 Servicing

- Check connections.
- Check correct positioning and adjustment (see chapter 3.5).



Inside the case there are no serviceable parts.



#### ATTENTION

#### The sensor will be damaged by the opening!

- ▶ *Do not unscrew the sensor.*

For damage caused by unscrewing the sensor, the manufacturer will not be liable.









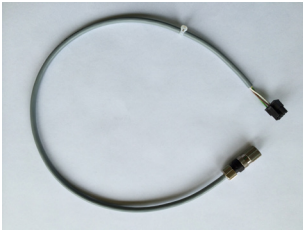
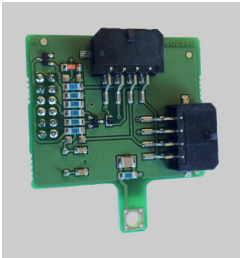


## 5 Technical Data

Max power	500 mW
Supply voltage	24 Vdc
PNP output	2.7 mA $\pm$ 8% constant current
NPN output	max. 25 mA
Ambient temperature Operation	0 – 50°C
Ambient temperature Storage	-20°C – 85°C
Humidity	5 – 90% non condensing
Degree of protection	IP50
Housing	Chemical resistant, made of conducting material
Evaluation electronic	Shielded against electrostatic or magnetic interference
Sensor	Optical measuring principal
Application	Monofilament or multifilament yarns, regardless of yarn color
Yarn speed	Up to 30 m/sec
Yarn count	20 – 3000 dTex
Adjustment range	10 sensitivity levels, manually and automatically adjustable



## 6 Spare Parts

Article	Designation	Part No.
	Optical yarn defects sensor Falcon-i (complete)	46858000
	Optical yarn defects sensor Falcon-i Carbon (complete)	46888000
	Connecting plug	17153900
	Cable	16958900
	Relay board	46899000

Article	Designation	Part No.
	IRO Connection cable	46326000
	IRO Connection board	17160900
	Mounting angle	33042000
	Mounting bracket	43726000





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