



USTER® *SENTINEL*

The ring spinning optimization system

Technical Data

February 2017

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Scope of supply

Standard equipment	USTER® SENTINEL workstation	<ul style="list-style-type: none">– Industrial computer– 3 hard drives for data security and system redundancy– Pre-installed software packages– 1 dongle key for the USTER® SENTINEL server– Supports up to 150 machine stations and 100 000 spindles	
	Machine stations	<ul style="list-style-type: none">– Supports up to 2 048 spindles for each ring spinning machine– 1 machine station for each ring spinning machine	
	Spindle monitoring	<ul style="list-style-type: none">– Single spindle monitoring sensor	
	Main shaft sensor	<ul style="list-style-type: none">– 1 main shaft sensor for each ring spinning machine	
	Front roller sensor	<ul style="list-style-type: none">– 1 front roller sensor for each ring spinning machine	
	Doff sensor	<ul style="list-style-type: none">– 1 doff sensor for each ring spinning machine	
	Indicators	<ul style="list-style-type: none">– 4 alarm lamps for each ring spinning machine– 1 LED for every spindle with end break, slip spindle, off-quality indication– 1 section indicator every 96 spindles, visible from large distance	
	Energy sensor	<ul style="list-style-type: none">– 1 energy sensor for each ring spinning machine	
	Optional equipment	Temperature and humidity sensor	<ul style="list-style-type: none">– 1 temperature and humidity sensor for each ring spinning machine
		In-mill dashboard	<ul style="list-style-type: none">– 1 connection box for connection to a monitor inside the ring frame area. The cabling and monitor are organized by the customer.

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Additional equipment

USTER® SENTINEL can be expanded by adding additional equipment. Uster Technologies does not supply the additional equipment. The following table shows the minimum requirements for the additional equipment.

SENTINEL client PC	<ul style="list-style-type: none">– CPU: Intel® CoreTM2 Duo (>2.6 GHZ) or similar– RAM: 2 GB– Hard disk: 160 GB SATA Type– Drives: 2 USB 2.0 port, 1 DVD Drive– Network: Gigabit Ethernet Connection– Display: 19" TFT monitor (resolution: 1 920 x 1 200)– Graphic card: Support for WUXGA (1 920 x 1 200) and DirectX 9.0– Internet connection: Broadband connection with minimum 2 Mbps speed (for remote support)– Operating system, Windows 7 (32 bit and 64 bit supported)– Other 1: Internet Explorer 7 or higher– Other 2: Acrobat reader 6.0 or higher– Other 3: Uninterruptable power supply
Printer	<ul style="list-style-type: none">– No specific requirement. Note that the colors in reports may not be easily distinguished in the black and white print.

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Installation and storage conditions

Temperature and humidity	The ambient conditions must be maintained in order to avoid any influences on the operating and storage of the USTER® SENTINEL according to ISO 139 (2005).	
	Operating	Temperature: 0–50 °C Relative humidity: 35–95 %
	Storage	Temperature: -10–50 °C Relative humidity: 35–95 %
General ambient conditions	Water and dust resistance	IP class 60
Installation	Mains voltage range	100–240 VAC
	Mains frequency	50/60 Hz
	Power consumption	USTER® SENTINEL workstation 240 W Machine station 600 W
	Connection type	By Ethernet Port via LAN cable. The installation and maintenance of the LAN is entirely in the responsibility of the customer. The network is an important prerequisite for correct and continuous operation of the USTER® SENTINEL system.
Gross weights	USTER® SENTINEL workstation	15.4 kg
	Machine station	9 kg

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Scope of application

Application range	Yarn type	– For spun yarns consisting of natural fibers, blended fibers, synthetic fibers, Siro and fancy yarns.
	Yarn color	– For all yarn colors
	Count range	– Tested application range from Ne 6 to Ne 150 / 10.2 Nm to 254 Nm / 98.4 tex to 3.94 tex
	Ring types	For all flange rings
	Traveler type and color	For all traveler types & colors
	Machine speed	Successfully operating up to 25 000 rpm
	Machine gauge	70 mm and 75 mm supported currently

Availability of ring frames

Uster Technologies provides machine-specific variants of USTER® SENTINEL installation. A ring-spinning machine from a particular manufacturer can therefore only be equipped and operated with an USTER® SENTINEL variant that has been developed and adapted specifically for that machine type. USTER® SENTINEL is available for the following ring frame models:

Company	Model
Toyota	RX300, RX240 and similar
Jingwei	JWF1526, JWF1562, JWF1566 and similar
Lakshmi	LR-6 and similar
Rieter	G32, G35, K44, K45 and similar
Zinser	RM350, RM351 and similar

Additional ring frame models can be retrofitted upon request. A separate questionnaire is provided for new retrofit options.

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Features

- Key advantages**
- Ergonomically designed single spindle sensors that support effortless piecing from machine operators
 - Lightweight system with minimum stress on the ring rail lifting mechanism
 - Monitoring of local temperature and humidity conditions for each ring frame
 - Continuous monitoring of power consumption for each ring frame
 - Machine maintenance history and monitoring of ageing of machine parts
 - Team and personnel efficiency monitoring
 - Class leading software provides real time analysis and seamless navigation from mill view down to the single spindle

Software key actions and features

- Real time communication and control**
- Live view of the machine state
- Settings management**
- Central article management
 - Modify, store and download article settings
- Advanced analysis**
- Run/stop diagram for machines
 - Bobbin build-up report
- Intuitive reporting**
- Exceptions handling and reporting
 - Set of predefined role oriented reports
 - Production, personnel performance
 - End breaks, slip spindles, off-quality spindles, stops, maintenance
 - Alarms for chain breaks and high end breaks
 - Report editor
 - Machines monitoring
 - Team and personnel performance
- Automated data management**
- Automatic export of data
 - Shift calendar
 - Uploading articles data
 - Data storage in a database
 - User management – authorization
- Fast connectivity and support**
- Remote support and control tools
 - Service logs
- Database safety**
- Automated data maintenance
 - Automated backup

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Languages and units

Dialog languages German, English, Chinese, Turkish, Italian, Spanish, Vietnamese, French, Portuguese, Japanese

Units

Productivity	Length	Weight	End breaks counter
m/min	m	g	EB/1000sh
yd/min	km	kg	absolute
	yd	lbs	
	ky		
Yarn count	Time	Power / Energy	Temperature
Nec	minutes	kWh	Celsius
Nm	hours	kWh/kg	Fahrenheit
tex	shift		
	week		
	month		
	year		

Uster Technologies has made all possible efforts to ensure that all information is accurate at the time of publication. Hereby it is declared that alterations to the product may be possible at any time. In these cases the information contained in this technical datasheet is subject to change without notice.

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