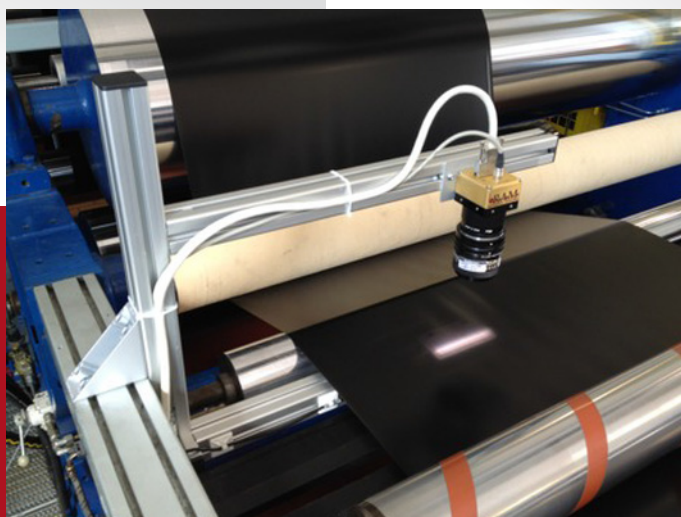




OPS 400/401

Opacity Measurement



 **R.A.M.**

OPS 400/401

The inline opacity meter OPS 401 has a measuring window of up to 60 mm width. There is one measurement per second. The measurable opacity is transparent to covered black.

The output of the measured values in \ln (natural logarithm) – scale $1/x$, or opacity ($1 / \text{transparency}$), or transparency value and / or % – scale (0 – 100%).

The measured value is displayed in digital numbers and as a graphical trend. The opacity values are stored in the system and can be evaluated based to a specific role.

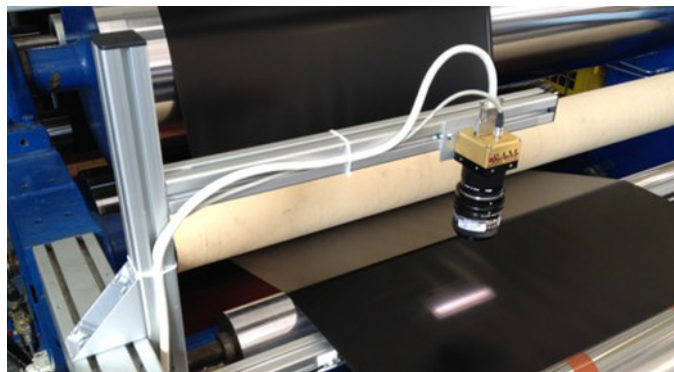
For the above or below the limit values are each 1x warning and 1x alarm limits adjustable. Shown at the monitor of the film inspection system and available as a contact output (alarm).

The calibration is performed by means of reference samples or based on the existing laboratory instrument. The OPS 401 has 4 password protected input levels. Users, machine operators, production managers and service. Contract-related data such as customer, machine, film type, operator, .. are possible. Means the terms of the opacity in regard to the production time, material types, and the production machine is possible.

Optionally, the OPS 401 provides the scaled values (and / or raw scores) over a 4 – 20 mA or 0-10 Voltage output for controlling or regulation of dosing units and a recycling optimization. Ethernet and USB to output the measured values as a CSV file via UDP and customer specific data (on request).

The only difference between the opacity measurement system OPS 401 and OPS 400 is, that this one is a stand alone solution and OPS 400 must be integrated in another RAM inspection system.

The technical description of the system OPS 400 and OPS 401 will be identical.



- measuring window 60 mm in width
- colors transparent, translucent – black
- output scaled in In, the raw values shown as a number, scaled from 0 -100%
- graphical trend
- transparency measurement 0 – 100%
- roles or production campaign related evaluation
- calibration and scaling based on laboratory measurements or customer patterns
- limits with warning and alarm function on the monitor and per contact
- order entry, production and customer related
- Four password protected user levels
- I / O – Contacts for roll changes, production start / stop, meter pulse input for roll measurement
- output vis USB File, Ethernet, (4 – 20 mA, 0 – 10 V optional)
- CSV and UDP output format and specific customer data format upon request
- post analysis possible by RAM_PAT

Technical Data

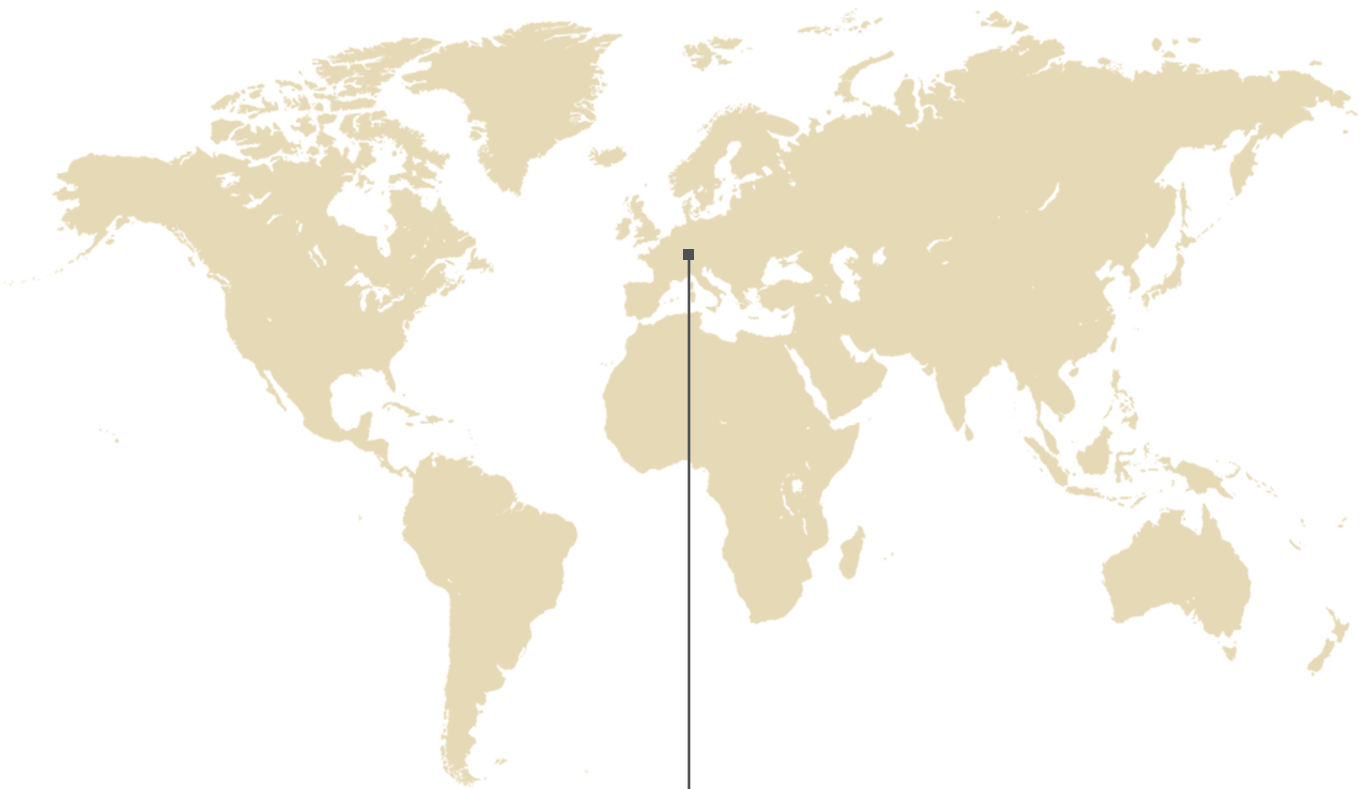
OPS 400_{integrated}

PC:	from FIS 1000 System
Interfaces:	see FIS 1000 System
Screen:	from FIS 1000 System
Software:	OPS CAMEN 10.xx
Camera:	CMOS Line Camera 4.096 Pixel
Lighting System:	LED Light 100mm
Dimension Cabinet:	integrated in FIS 1000 System
Power Supply:	24 VDC aus dem FIS 1000
Service / Support:	SSH/VPN-Tunnel (DSL necessary) recommended
Lieferumfang	CMOS - Line Camera Source of light 100 mm Cover of extraneous lights Power Supply 24 VDC from FIS 1000 system

Technical Data

OPS 401_{standalone}

PC:	CPU 16 GB RAM, 1 TB HD, SSD (OS)
Interfaces:	Ethernet, USB
Screen:	19" LCD/TFT Touch Monitor
Software:	OPS CAMEN 10.xx
Camera:	CMOS Line Camera 4.096 Pixel
Lighting System:	LED Light 100mm
Dimension Cabinet:	145 x 210 x 460 mm
Power Supply:	24 VAC, 50 Hz, 300W
Service / Support:	SSH/VPN-Tunnel (DSL necessary) recommended
Lieferumfang	C-Frame 500mm, Aluminiumprofile CMOS - Line Camera Source of light 100 mm Cover of extraneous lights PC, Screen, SPS Power Supply 230 VAC, 50 Hz, 300 W



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