

D-LX 201

Compact flame monitor

Safe, flexible and selective flame monitoring –
for sure



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Optical flame monitoring

For large industrial combustion plants with many burners, complex process sequences or even several fuels the method of optical flame monitoring often is the most adequate one. It offers a way of monitoring that on one hand is burner selective as well as fuel selective, on the other hand can be adapted well to very variable combustion conditions.

To monitor the flame the device evaluates electromagnetic radiation in the ultraviolet, visible and infrared region of the spectrum for its flame specific portions and analyses these in more detail. For this the D-LX 201 investigates intensity and frequency of the flame flickering as well as the stability of the flame.

As a safety device the D-LX 201 is built fail safe and self-monitoring. Through its design as a compact flame monitor it possesses a direct relay output for the flame signal. But as a modern flame monitor it also provides additional information about the flame via adequate bus systems.

Images on the right:
Examples of the housing variants used for the product family D-LX 201 (from the top):

- Housing P2 (shown with plug connector)
- Housing M5 (shown with plug connector)
- Housing M4 (version for Ex zone 1/21)

Image below:
– Optical coupling for the D-LX 721, housing P2



Housing variants



Certifications (according to variant)

DURAG

CE



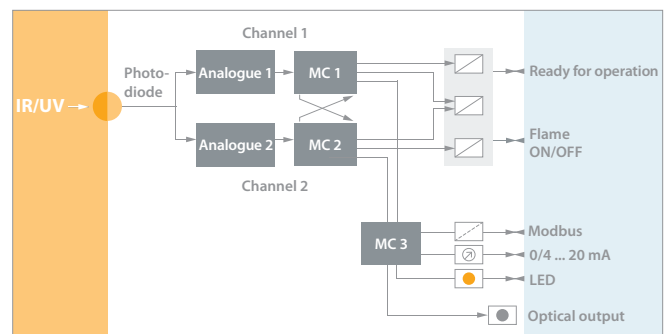
EAC



Facts + Specifications

Spectral sensitivity	UAF: 280 ... 410 nm UA: 190 ... 520 nm IG: 780 ... 1800 nm
Electrical connection	24 V $\overline{\text{=}}$, 5 W, PELV
Ambient temperature	-40 °C ... +85 °C; /86Ex, /87Ex: -40 °C ... +65 °C
FFDT (safety time)	1, 2, 3, 5 s (separately per Range)
Relay outputs	Flame relay Ready for operation relay Closing contacts, 24 V $\overline{\text{=}}$, 0,5 A
Analogue output (signal configurable)	0/4 ... 20 mA, 750 Ohm max.
Optional real time information	Flame stability analysis
Ingress Protection	IP66/IP68 IP65 (/MP3) IP66 (Ex-versions)
Process connection	G1¼" or NPT1¼", F
Purge air connection	G½" or NPT ½", F
Viewing angle	6°
Dimensions	Hsg. P2 80 x 80 x 250 mm Hsg. M5 100 x 100 x 260 mm Hsg. M4 Ø120 mm Length approx. 310 mm
Weight (w/o cable)	Housing P2 approx. 0,9 kg Housing M5 approx. 1,2 kg Housing M4 approx. 2,8 kg

- ▶ Applicable from -40°C up to +85°C, certified and without need for accessories to isolate, heat or cool
- ▶ Wide dynamic range through automatic adaptation to the brightness of the flame
- ▶ Consequent two channel architecture for highest safety coexisting with highest availability
- ▶ Ideal support for Functional Safety within safety chains up to SIL3
- ▶ Different variants certified for diverse systems of standards for many parts of the world and many fields of application
- ▶ All variants also available for use with fibre optic systems (designation D-LX 721)
- ▶ Local display of status parameters and flame intensity at the device, for the whole temperature range
- ▶ Low maintenance requirements
- ▶ Optional analysis of flame stability in real time



Two channel design for high safety with high availability

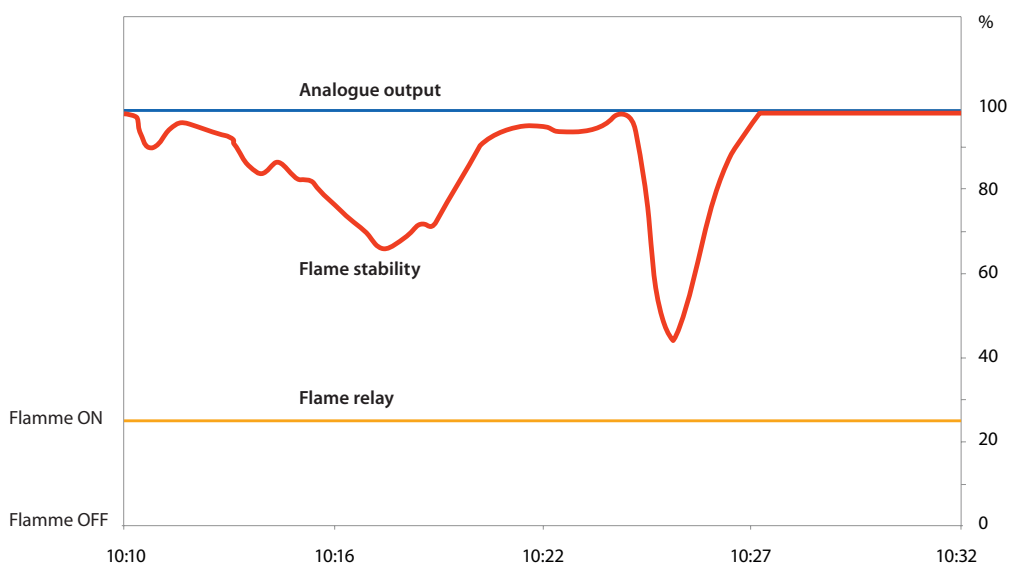
Features + benefits

- ▶ **Safe process control**
Even during strong and fast load changes of the combustion plant the process can be controlled safely by the flame stability signal. Reactions in due time are possible.
- ▶ **Higher flexibility for different loads and different fuels**
Excellent selective flame monitoring and information concerning the stability of the flame makes it possible to run the plant in less stable regimes
- ▶ **Protection from unscheduled shutdown of the burner**
Burner specific information concerning the stability allows decisions for preventative maintenance of the burner
- ▶ **Fulfilment of special requirements**
Flexible pre-settings for different combustion situations and fuels
- ▶ **Same technology for the most variable application conditions**
The same device technology can be used without change for the most different geographical regions and based on varying systems of standards

Applications

- ▶ Complex combustion plants with a larger number of burners
- ▶ Combustion processes with continuous operation and with changing fuels
- ▶ Fossil fuelled power plants (Lignite, hard coal, biomass, oil and gas)
- ▶ Thermoprocessing plants
- ▶ Chemical plants
- ▶ Refineries
- ▶ Waste incineration plants
- ▶ Petrochemical plants
- ▶ Steel industry

Temporal variation of the usual output signals **Flame relay** and **Analogue output**, as well as the **Flame stability signal** for a real combustion. The signal for the flame stability shows very clear changes while the other two signal do not yet show signs of a change.



Branch offices Sales and Service

DURAG Sales + Service

GmbH & Co. KG

Kollastraße 105
22453 Hamburg, Germany
Tel. +49 40 55 42 18-0
Fax +49 40 58 41 54
info@durag.de

DURAG Branch East

Halsbrücker Straße 34
09599 Freiberg, Germany
Tel. +49 3731 30 04-0
Fax +49 3731 30 04-22
durag-ost@durag.de

DURAG Branch North

Kollastraße 105
22453 Hamburg, Germany
Tel. +49 40 55 42 18-0
Fax +49 40 58 41 54
durag-nord@durag.de

DURAG Branch South

Weidenweg 16
73087 Bad Boll, Germany
Tel. +49 7164 912 25-0
Fax +49 7164 912 25-50
durag-sued@durag.de

DURAG Branch West

An der Pönt 53a
40885 Ratingen, Germany
Tel. +49 2102 74 00-0
Fax +49 2102 74 00 28
durag-west@durag.de

DURAG Brazil

DURAG Siena do Brasil Ltda
Rua Vinte e Dois de Agosto, 66
Diadema - SP
09941-530 Brazil
Tel. +55 11 4071-5050 r.28
Fax +55 11 4077-1718
info@duragsiena.com.br

DURAG France S.a.r.l.

147 avenue Paul Doumer
92500 Rueil Malmaison, France
Tel. +33 1 41 29 04 60
Fax +33 1 41 29 04 68
info@durag-france.fr

DURAG Inc.

1355 Mendota Heights Road
Suite 200
Mendota Heights
MN 55120, USA
Tel. +1 651 451-1710
Fax +1 651 457-7684
Toll Free: 800 811 98 52
durag@durag.com

DURAG Inc. (Houston Branch)

440 Cobia Drive
Suite 1104 (building #11)
Katy, TX 77494
Tel. +1 832 437 3173
Fax +1 832 437 8272
Toll Free: 800 811 98 52
durag@durag.com

DURAG India Instrumentation Private Limited

#27/30, 2nd Main Road
Industrial Town, Rajajinagar
Bengaluru 560 044, India
Tel. +91 80 2314 5626, 2301 1700
Fax +91 80 2314 5627
info@duragindia.com

DURAG Instrumentation (Shanghai) Co., Ltd.

Room 706, Dibao Plaza, No. 3998
Hongxin Rd., Minhang District
Shanghai, 201103 PR China
Tel. +86 21 60732979-200
Fax +86 21 60732980-205
info@durag-cn.com

DURAG Italia S.r.l.

Via Carlo Panseri, 118
CIM uffici, P. secondo
28100 Novara, Italy
Tel. +39 0321 679569
Fax +39 0321 474165
info@durag.it

DURAG Japan Office

c/o TMS Planning Inc.
291-2 Umena, Mishima-shi
Shizuoka-ken
411-0816 Japan
Tel. +81 55 977 3994
Fax +81 55 977 3994
info@durag.jp

DURAG Korea Office

RM #1131, Manhattan Building,
36-2, Yeouido-Dong,
Yeongdeungpo-Gu, Seoul, Korea
Tel. +82 2 761 8970
Fax +82 2 761 8971
info@durag-group.co.kr

DURAG Middle East (Branch)

Dubai Airport Free Zone
5 West Wing, Office 124
Dubai, UAE
P.O. Box 371555
Tel. +971 4260251 0
dme@durag.de

DURAG RUSS OOO

Andropova avenue 18/6
Office 5-09
115432 Moscow, Russia
Tel. +7 499 4180090
Fax +7 499 4180091
info@durag-group.ru

DURAG UK GmbH

Bretby Business Park, Ashby Road
Burton-on-Trent, Staffordshire
DE15 0YZ, Great Britain
Tel. +44 1283 553 481
Fax +44 1283 553 482
durag.uk@durag.de

DURAG

DURAG GmbH

Kollaustraße 105
22453 Hamburg, Germany
Tel. +49 40 55 42 18-0
Fax +49 40 58 41 54
info@durag.de



VEREWA –

A brand of DURAG GmbH

Kollaustraße 105
22453 Hamburg, Germany
Tel. +49 40 55 42 18-0
Fax +49 40 58 41 54
verewa@durag.de



DURAG

process & systems technology –

A brand of DURAG GmbH

Kollaustraße 105
22453 Hamburg, Germany
Tel. +49 40 55 42 18-0
Fax +49 40 58 41 54
info@durag-process.de



DURAG data systems GmbH

Kollaustraße 105
22453 Hamburg, Germany
Tel. +49 40 55 42 18-3000
Fax +49 40 55 42 18-3099
info@durag-data.com



UTAS – DR. LASINGER

A brand of DURAG data systems GmbH

Branch Office Austria
Lastenstraße 36, City Tower 2
4020 Linz, Austria
Tel. +43 732 60 99 60-0
Fax +43 732 60 99 60-4
office@utas.at



Hegwein GmbH

Am Boschwitz 7
70469 Stuttgart, Germany
Tel. +49 711 135 788-0
Fax +49 711 135 788-5
info@hegwein.de



SMITSVONK Holland B.V.

P.O. Box 180, 2700 AD Zoetermeer
Goudstraat 6, 2718 RC Zoetermeer
Netherlands
Tel. +31 79 361 35 33
Fax +31 79 361 13 78
sales@smitsvonk.nl



DURAG Siena do Brasil Ltda

Rua Vinte e Dois de Agosto, 66
Diadema - SP
09941-530 Brazil
Tel. +55 11 4071-5050 r.28
Fax +55 11 4077-1718
info@duragsiena.com.br



GRIMM Aerosol Technik GmbH & Co. KG

Dorfstraße 9
83404 Ainring, Germany
Tel. +49 8654 578-0
Fax +49 8654 578-35
info@grimm-aerosol.com