

Инкрементные энкодеры ICURO RI30, RI36

Технические характеристики

По вопросам продаж и поддержки обращайтесь:

Алматы (727)345-47-04
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89

Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37
Пермь (342)205-81-47

Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Саранск (8342)22-96-24
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97
Тверь (4822)63-31-35

Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93

Россия +7(495)268-04-70

Казахстан +(727)345-47-04

Беларусь +(375)257-127-884

Узбекистан +998(71)205-18-59

Киргизия +996(312)96-26-47

эл.почта: hro@nt-rt.ru || сайт: <https://hengstler.nt-rt.ru>

TECHNICAL DATASHEET

Incremental Encoder RI 30-0



- Miniature encoder for industrial use
- Low current consumption
- High noise interference immunity
- Cable lengths of up to 100 m
- Suitable for high pulse frequencies
- High protection class
- Applications: CNC machines, manipulators, motors, medical technology, textile machines



NUMBER OF PULSES

5 / 10 / 20 / 25 / 30 / 50 / 60 / 100 / 120 / 200 / 250 / 256 / 288 / 300 / 360 / 400 / **500** / **512** / 600 / 720 / **1000** / 1024 / 1250 / 1500

Other number of pulses on request

Preferably available versions are printed in bold type.

TECHNICAL DATA mechanical

Housing diameter	30 mm
Shaft diameter	5 mm (Solid shaft)
Flange (Mounting of housing)	Synchro flange, Pilot flange
Protection class shaft input (EN 60529)	IP64
Protection class housing (EN 60529)	IP64
Shaft load axial / radial	5 N / 10 N
Max. speed	max. 10 000 rpm
Starting torque typ.	≤ 1 Ncm
Moment of inertia	approx. 0.8 gcm ²
Vibration resistance (DIN EN 60068-2-6)	100 m/s ² (10 ... 2000 Hz)
Shock resistance (DIN EN 60068-2-27)	1000 m/s ² (6 ms)
Operating temperature	-10 °C ... +70 °C
Storage temperature	-25 °C ... +85 °C
Material housing	Aluminum
Weight	approx. 60 g
Connection	Cable, axial or radial M16 (Binder), axial

TECHNICAL DATA electrical

General design	as per DIN VDE 0160, protection class III, contamination level 2, overvoltage class II
Supply voltage	RS422 + Alarm (R), RS422 + Sense (T): DC 5 V ±10 % Push-pull (K): ± 10% DC 5 V or DC 10 - 30 V
Current w/o load typ.	40 mA (DC 5 V), 60 mA (DC 10 V), 30 mA (DC 24 V)
Max. pulse frequency	RS422: 300 kHz Push-pull: 200 kHz
Standard output versions ¹	RS422 + Alarm (R): A, B, N, $\bar{A}$, $\bar{B}$, $\bar{N}$, $\bar{Alarm}$ RS422 + Sense (T): A, B, N, $\bar{A}$, $\bar{B}$, $\bar{N}$, Sense Push-pull (K): A, B, N, $\bar{Alarm}$
Pulse width error	± max. 25° electrical
Number of pulses	5 ... 1500

TECHNICAL DATASHEET

Incremental Encoder RI 30-0

TECHNICAL DATA electrical (continued)

Alarm output	NPN-O.C., max. 5 mA
Pulse shape	Square wave
Pulse duty factor	1:1

¹ With push-pull (K): pole protection

ELECTRICAL CONNECTIONS Cable

Description (push-pull)	Description (RS422)	Lead □ mm ²	Colour
DC 10 - 30 V	DC 5 V	0.5	red
	Sense V _{CC}	0.14	yellow/red
Channel A	Channel A	0.14	white
	Channel $\overline{A}$	0.14	white/brown
Channel B	Channel B	0.14	green
	Channel $\overline{B}$	0.14	green/brown
Channel N	Channel N	0.14	yellow
	Channel $\overline{N}$	0.14	yellow/brown
GND	GND	0.5	black
$\overline{\text{Alarm}}$	$\overline{\text{Alarm}}$ /Sense GND ¹	0.14	yellow/black
screen ²	screen ²		screen ²

¹ depending on ordering code

² connected with encoder housing

ELECTRICAL CONNECTIONS M16 connector (Binder), 6 pole

Description (push-pull)	Pin
DC 10 - 30 V	1
Channel A	2
Channel N	3
Channel B	4
$\overline{\text{Alarm}}$	5
GND	6

TECHNICAL DATASHEET

Incremental Encoder RI 30-0

ORDERING INFORMATION

Type	Number of pulses	Supply voltage ¹	Flange, Protection, Shaft	Output ²	Connection ³
☐	☐	☐	☐	☐	☐
RI30-0	5 ... 1500	A DC 5 V E DC 10 - 30 V	S.34 Synchro, IP64, 5 mm R.34 Pilot, IP64, 5 mm	R RS422 +Alarm T RS422 +Sense K Push-pull	A Cable, axial B Cable, radial E-I M23 connector (Conin) at 1 m TPE cable, cw E-D M23 connector (Conin) at 1 m TPE cable, ccw N M16 connector (Binder), 6 pole, axial

¹ DC 10 - 30 V only with push-pull

² Output code "K": short-circuit-proof

³ For Output Code "N" (M16): only push-pull

ORDERING INFORMATION

Selection of cable length

Versions with cable outlet (connection A, B, E or F) are available with various lengths of cable. To order your desired cable length, please add the respective code to the end of your ordering code. For variants with connector on cable end please add cable length code in between. Further cable lengths on request.

Code	Cable length
without code	1.5 m
-D0	3 m
-F0	5 m
-K0	10 m
-P0	15 m
-U0	20 m
-V0	25 m

Example:

Cable 3 m length: ... B - D0

Cable mit 3 m length and M23 connector, cw: ... B - D0 - I

TECHNICAL DATASHEET

Incremental Encoder RI 36-H



- Miniature industry encoder for high number of pulses
- Short mounting length
- Easy mounting procedure
- Applications: motors, machine tools, robots, automated SMD equipment



NUMBER OF PULSES

5 / 10 / 20 / 25 / 50 / 60 / 100 / 200 / 250 / 300 / 360 / 500 / 600 / 720 / 1000 / 1024 / 1250 / 1500 / 2000 / 2048 / 2500 / 3000 / 3600

Other number of pulses on request

TECHNICAL DATA mechanical

Housing diameter	36 mm
Shaft diameter	4 mm / 6 mm / 8 mm / 10 mm (Hubshaft)
Flange (Mounting of housing)	Tether
Mounting of shaft	Front clamping ring
Protection class shaft input (EN 60529)	IP64
Protection class housing (EN 60529)	IP64
Axial endplay of mounting shaft (hubshaft)	± 0.5 mm
Radial runout of mating shaft (hubshaft)	± 0.15 mm
Max. speed	max. 10 000 rpm
Torque	≤ 1 Ncm
Moment of inertia	approx. 3 gcm ²
Vibration resistance (DIN EN 60068-2-6)	100 m/s ² (10 ... 2000 Hz)
Shock resistance (DIN EN 60068-2-27)	1000 m/s ² (6 ms)
Operating temperature	-10 °C ... +70 °C
Storage temperature	-25 °C ... +85 °C
Material housing	Aluminum
Weight	approx. 80 g
Connection	Cable, axial or radial

TECHNICAL DATA electrical

General design	as per DIN EN 61010-1, protection class III, contamination level 2, overvoltage class II
Supply voltage ¹	RS422 + Alarm (R), RS422 + Sense (T): DC 5 V ±10 % Push-pull (K), Push-pull antivalent (I): DC 10-30 V
Max. current w/o load	40 mA (DC 5 V), 60 mA (DC 10 V), 30 mA (DC 24 V)
Max. pulse frequency	RS422: 300 kHz Push-pull: 200 kHz

TECHNICAL DATASHEET

Incremental Encoder RI 36-H

TECHNICAL DATA electrical (continued)

Standard output versions	RS422 + Sense (T): A, B, N, $\bar{A}$, $\bar{B}$, $\bar{N}$, Sense RS422 + Alarm (R): A, B, N, $\bar{A}$, $\bar{B}$, $\bar{N}$, Alarm Push-pull (K): A, B, N, $\bar{Alarm}$ Push-pull complementary (I): A, B, N, $\bar{A}$, $\bar{B}$, $\bar{N}$, $\bar{Alarm}$
Pulse width error	$\pm$ max. 25° electrical
Number of pulses	5 ... 3600
Alarm output	NPN-O.C., max. 5 mA
Pulse shape	Square wave
Pulse duty factor	1:1

¹ With push-pull (K) and push-pull complementary (I): pole protection

ELECTRICAL CONNECTIONS Cable PVC

Cable PVC (A, B)		Output		
Colour	Litze mm ²	RS422 (R, T)	push-pull (K)	push-pull complementary (I)
red	0.5	DC 5 V	DC 10 - 30 V	DC 10 - 30 V
yellow/red	0.14	Sense V _{CC}		Sense V _{CC}
white	0.14	Channel A	Channel A	Channel A
white/brown	0.14	Channel $\bar{A}$		Channel $\bar{A}$
green	0.14	Channel B	Channel B	Channel B
green/brown	0.14	Channel $\bar{B}$		Channel $\bar{B}$
yellow	0.14	Channel N	Channel N	Channel N
yellow/brown	0.14	Channel $\bar{N}$		Channel $\bar{N}$
black	0.5	GND	GND	GND
yellow/black	0.14	$\bar{Alarm}$ /Sense GND ¹	$\bar{Alarm}$	$\bar{Alarm}$
screen ²		screen ²	screen ²	screen ²

¹ depending on ordering code

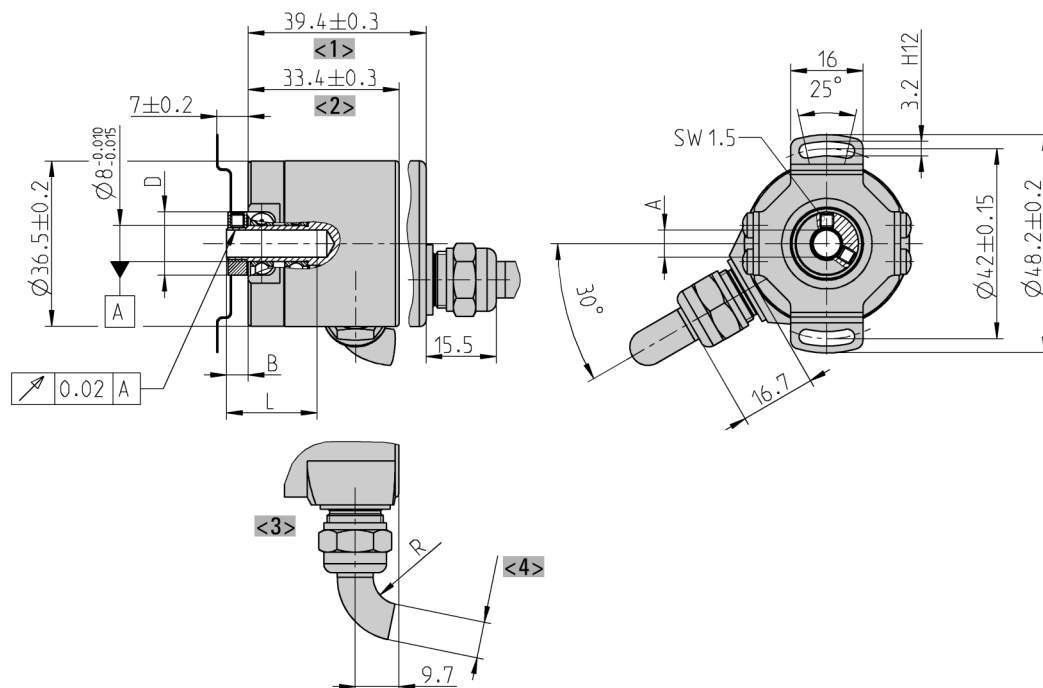
² connected with encoder housing

TECHNICAL DATASHEET

Incremental Encoder RI 36-H

DIMENSIONED DRAWINGS

Torque support "J"



Dim.	Hollow shaft $\varnothing$				Unit
A	$4^{+0.01}$	$6^{+0.01}$	$8^{+0.01}$	$10^{+0.01}$	mm
A*	4_{g7}	10_{g7}	8_{g7}	10_{g7}	mm
B	4.8 ± 0.2	4.8 ± 0.2	4.8 ± 0.2	4.8 ± 0.2	mm
D	12	14	16	18	mm
L _{min}	6	9	12	15	mm
L _{max}	20	20	20	20	mm
A* = diameter of connection shaft					
B = space between housing and shaft					
D = diameter clamping ring					
L = length of connection shaft					

<1> axial

<2> radial

<3> Cable radial

<4> $\varnothing 6$ or $\varnothing 8$

Cable bending radius R for flexible installation ≥ 100 mm

Cable bending radius R for fixed installation ≥ 40 mm

Tightening torque of set screw: 15 Ncm

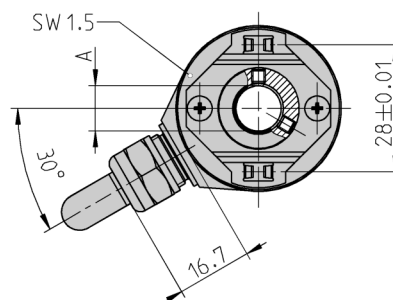
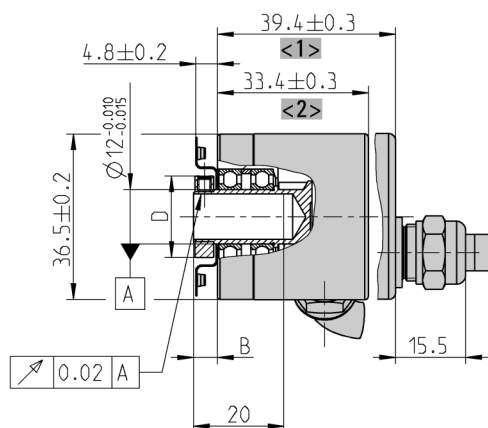
Dimensions in mm

TECHNICAL DATASHEET

Incremental Encoder RI 36-H

DIMENSIONED DRAWINGS (continued)

Torque support "F"



Dim.	Hollow shaft Ø				Unit
A	4 ^{+0.01}	6 ^{+0.01}	8 ^{+0.01}	10 ^{+0.01}	mm
A*	4 _{g7}	10 _{g7}	8 _{g7}	10 _{g7}	mm
B	4.8 ± 0.2	4.8 ± 0.2	4.8 ± 0.2	4.8 ± 0.2	mm
D	12	14	16	18	mm
L _{min}	6	9	12	15	mm
L _{max}	20	20	20	20	mm
A* = diameter of connection shaft					
B = space between housing and shaft					
D = diameter clamping ring					
L = length of connection shaft					

<1> axial

<2> radial

Cable bending radius R for flexible installation ≥ 100 mm

Cable bending radius R for fixed installation ≥ 40 mm

Tightening torque of set screw: 15 Ncm

The hubshaft with tether (F) as torque support must be fixed by a cylindric pin (2.4 mm Ø) at the machine side.

Dimensions in mm

TECHNICAL DATASHEET

Incremental Encoder RI 36-H

ORDERING INFORMATION

Type	Number of pulses	Supply voltage ¹	Flange, Protection, Shaft ^{3,4}	Output ²	Connection
☐	☐	☐	☐	☐	☐
RI36-H	5 ... 3600	A DC 5 V E DC 10 - 30 V	F.30 Spring tether "F" with clamping ring front, IP64, 4 mm F.31 Spring tether "F" with clamping ring front, IP64, 6 mm F.3C Spring tether "F" with clamping ring front, IP64, 8 mm F.32 Spring tether "F" with clamping ring front, IP64, 10 mm J.30 Spring tether "J" with clamping ring front, IP64, 4 mm J.31 Spring tether "J" with clamping ring front, IP64, 6 mm J.3C Spring tether "J" with clamping ring front, IP64, 8 mm J.32 Spring tether "J" with clamping ring front, IP64, 10 mm	R RS422 +Alarm T RS422 +Sense K Push-pull I Push-pull complementary	A Cable, axial B Cable, radial E-I M23 connector (Conin) at 1 m TPE cable, cw E-D M23 connector (Conin) at 1 m TPE cable, ccw

¹ DC 10 - 30 V only with push-pull

² Output code "K" and "I": short-circuit-proof

³ Fixing of hubshaft with tether by cylindrical pin

⁴ Fixing of hubshaft with tether by oblong hole

ORDERING INFORMATION

Selection of cable length

Versions with cable outlet (connection A, B, E or F) are available with various lengths of cable. To order your desired cable length, please add the respective code to the end of your ordering code. Further cable lengths on request.

Code	Cable length
without code	1.5 m
-D0	3 m
-F0	5 m
-K0	10 m
-P0	15 m
-U0	20 m
-V0	25 m

По вопросам продаж и поддержки обращайтесь:

Алматы (727)345-47-04
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89

Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37
Пермь (342)205-81-47

Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Саранск (8342)22-96-24
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97
Тверь (4822)63-31-35

Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93

Россия +7(495)268-04-70

Казахстан +(727)345-47-04

Беларусь +(375)257-127-884

Узбекистан +998(71)205-18-59

Киргизия +996(312)96-26-47

эл.почта: hro@nt-rt.ru || сайт: <https://hengstler.nt-rt.ru>