

Incremental 30-mm-Dia. Rotary Encoder

LSS30

Ultra Small, Space saving

General purpose Encoder with
External Diameter of 30mm

- Incremental model
- External diameter of 30mm
- Resolution up to 1200 ppr.
- Various output type
- Solid shaft with Dia at 4 mm



Ordering Information

LSS30-

1	2	3	4	5	6	7
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Section 1: Basic model name

LSS30 : 30mm Rotary Encoder(Mounting Type A)

Section 2: Shaft Size

4: Solid shaft with Dia at 4 mm

Section 3: Resolution

10: 10 ppr
20: 20 ppr

40 50 60 80 100 120 125 150
200 225 240 250 256 300 360 400 450
480 500 512 600 625 720 750 800 900
1000 1024 1080 ...up to 1200

Not indicated resolution is customizable

Section 4: Output phase

3: A B Z
6: A $\bar{A}$ B $\bar{B}$ Z $\bar{Z}$

Section 5: Output type

C: Complementary(also known as totem pole)
N: NPN Open collector
P: PNP Open collector
V: Voltage output
L: Line driver(**Power source 5VDC ONLY, Phase 6**)
T: Push-Pull(**With inverted signal, Phase 6**)

Section 6: Power Supply

8: 8-30 VDC(+/- 5%)
5: 5 VDC(+/- 5%)

Section 7: Cable outgoing type

E: Rear Entry Cable
Cable Can Only Entry From the Rear
▲Standard cable length is 2M

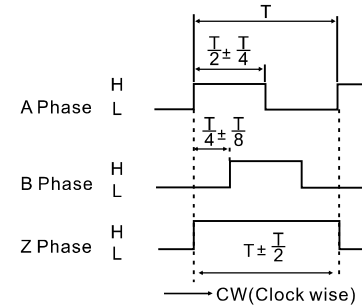
Ratings and Specifications

Power supply: 5 VDC / 8-30 VDC
Resolution: 5-1200 ppr
Current consumption: 100mA(Load disconnected)
Load current: 50mA maximum per channel 20mA maximum per channel (Line driver output)
Output type: NPN/PNP open collector/Complementary/Voltage/Line Driver/Push-Pull(HTL with reverse signal)
Frequency: 100K HZ Frequency=RPM*Resolution/60
Maximum permissible speed: 4000 rpm
Shaft loading radial: 10N
Shaft loading thrust: 20N
Weight: Approx 0.16KG
Protection level: IP50
Temperature: operation(-10°C~+70°C), storage(-30°C~+85°C)
Vibration resistance: 50m/s, 10-65 HZ, 1 mm double amplitude for 2 hours each in X, Y, and Z directions
Shock resistance: 980m/s, 6m/s 2 times each in X, Y, and Z directions
Starting torque: 1×10^{-3} N.m Maximum

Output circuits and wave forms

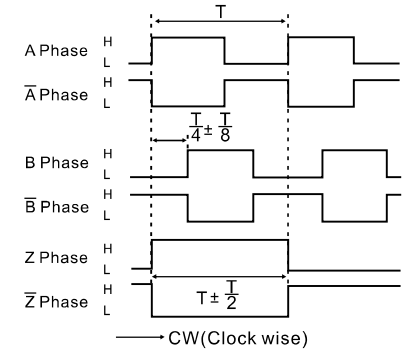
Wave forms

Complementary/Open collector(NPN&PNP)/Voltage output

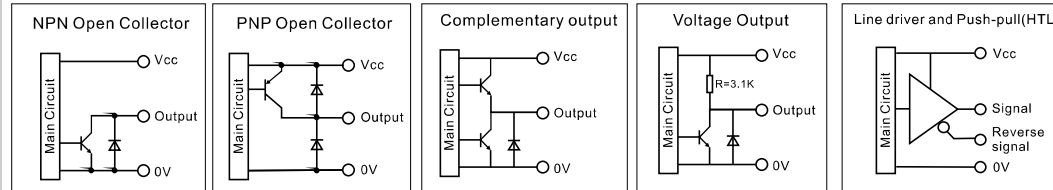


CW: As viewed from the shaft

Line Driver(RS422)/Push-pull(HTL with reverse signal)

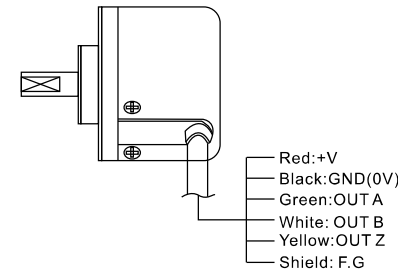


Output circuits

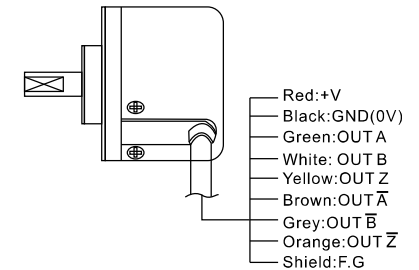


Wiring Details

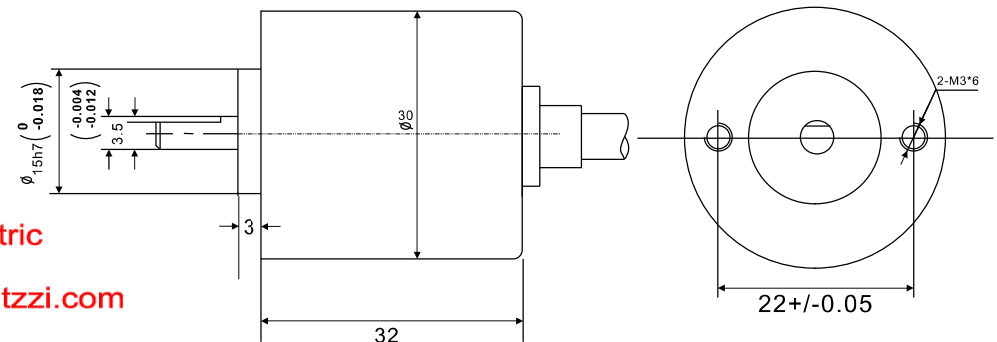
Complementary/Open collector(NPN/PNP)/Voltage output



Line Driver/Push-pull(HTL with reverse signal)



Mounting and Dimensions



Lorentzzi Electric

Website: lorentzzi.com

WhatsApp: +86-15397300173

Incremental 38-mm-Dia. Rotary Encoder

LSS38A/LSS38B/LSS38

General purpose Encoder with
External Diameter of 38mm

- Incremental model
- External diameter of 38mm
- Resolution up to 3600 ppr.
- Various output type
- Solid shaft with Dia at 6 mm



Ordering Information

LSS38A/LSS38B/LSS38

1	2	3	4	5	6	7
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Section 1: Basic model name

LSS38A : 38mm Rotary Encoder(Mounting Type A)
LSS38B : 38mm encoder(IP64)(Mounting Type B)
LSS38 : 38mm Rotary Encoder

Section 2: Shaft Size

6 : Solid shaft with Dia at 6 mm

Section 3: Resolution

10 : 10 ppr
20 : 20 ppr

40 50 60 80 100 120 125 150
200 225 240 250 256 300 360 400 450
480 500 512 600 625 720 750 800 900
1000 1024 1080 1200...up to 3600

Not indicated resolution is customizable

Section 4: Output phase

3 : A B Z
6 : A $\bar{A}$ B $\bar{B}$ Z $\bar{Z}$

Section 5: Output type

C : Complementary(also known as totem pole)
N : NPN Open collector
P : PNP Open collector
V : Voltage output
L : Line driver(**Power source 5VDC ONLY, Phase 6**)
T : Push-Pull(**With inverted signal, Phase 6**)

Section 6: Power Supply

8 : 8-30 VDC(+/- 5%)
5 : 5 VDC(+/- 5%)

Section 7: Cable outgoing type

G : Side entry cable
E : Rear entry cable

▲Standard cable length is 2M

Ratings and Specifications

Power supply : 5 VDC / 8-30 VDC

Resolution : 5-3600 ppr

Current consumption : 100mA(Load disconnected)

Load current : 50mA maximum per channel 20mA maximum per channel (Line driver output)

Output type : NPN/PNP open collector/Complementary/Voltage/Line Driver/Push-Pull(HTL with reverse signal)

Frequency : 100K HZ Frequency=RPM*Resolution/60

Maximum permissible speed : 6000 rpm

Shaft loading radial : 10N

Shaft loading thrust : 20N

Weight : Approx 0.2KG

Protection level : IP50

Temperature : operation(-10°C~+70°C), storage(-30°C~+85°C)

Vibration resistance : 50m/s, 10-65 HZ, 1 mm double amplitude for 2 hours each in X, Y, and Z directions

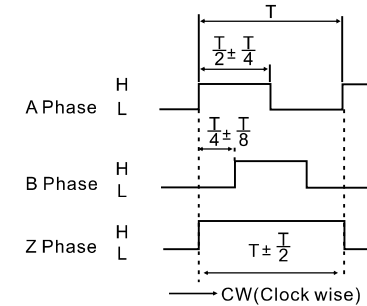
Shock resistance : 980m/s, 6m/s 2 times each in X, Y, and Z directions

Starting torque : 1.5×10^{-3} N.m Maximum

Output circuits and wave forms

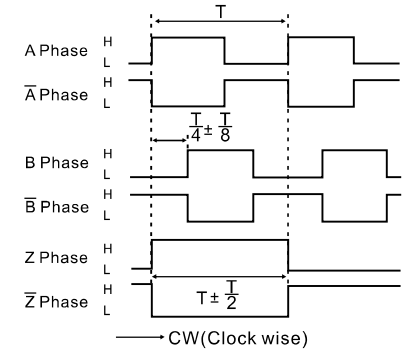
Wave forms

Complementary/Open collector(NPN&PNP)/Voltage output

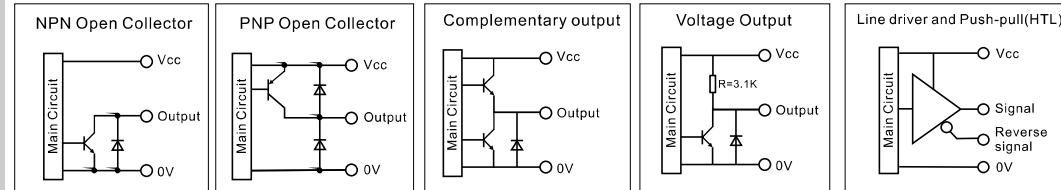


CW: As viewed from the shaft

Line Driver(RS422)/Push-pull(HTL with reverse signal)

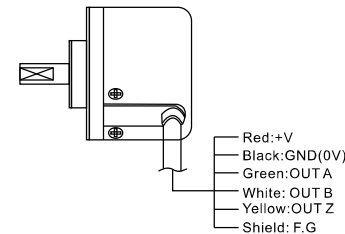


Output circuits

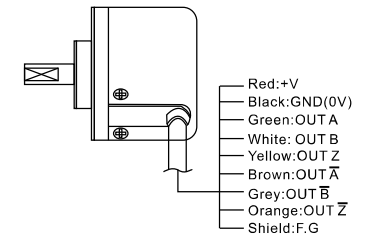


Wiring Details

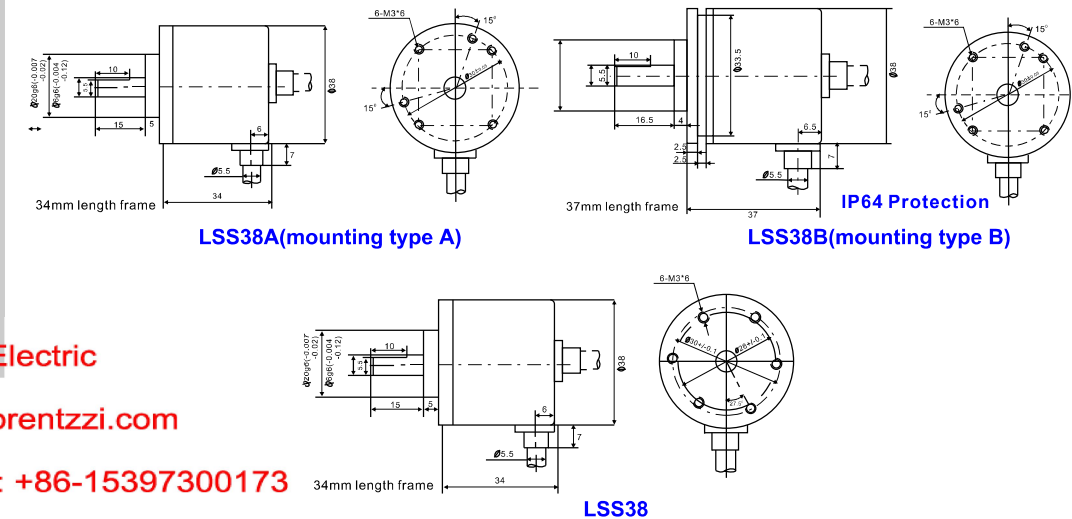
Complementary/Open collector(NPN/PNP)/Voltage output



Line Driver/Push-pull(HTL with reverse signal)



Mounting and Dimensions



Lorentzzi Electric

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LSS38

Incremental 40-mm-Dia. Rotary Encoder

LSS40/LSS40A

General purpose Encoder with
External Diameter of 40mm

- Incremental model
- External diameter of 40mm
- Resolution up to 3600 ppr.
- Various output type
- Solid shaft with Dia at 6 mm



Ordering Information

LSS40/LSS40A

1	2	3	4	5	6	7
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Section 1: Basic model name

LSS40 : 40mm Rotary Encoder
LSS40A : 40mm Rotary Encoder(Mounting Type A)

Section 2: Shaft Size

6: Solid shaft with Dia at 6 mm

Section 3: Resolution

10: 10 ppr
20: 20 ppr

40	50	60	80	100	120	125	150	
200	225	240	250	256	300	360	400	450
480	500	512	600	625	720	750	800	900
1000	1024	1080	1200	...up to 3600				

Not indicated resolution is customizable

Section 4: Output phase

3: A B Z
6: A $\bar{A}$ B $\bar{B}$ Z $\bar{Z}$

Section 5: Output type

C: Complementary(also known as totem pole)
N: NPN Open collector
P: PNP Open collector
V: Voltage output
L: Line driver(**Power source 5VDC ONLY, Phase 6**)
T: Push-Pull(**With inverted signal, Phase 6**)

Section 6: Power Supply

8: 8-30 VDC(+/- 5%)
5: 5 VDC(+/- 5%)

Section 7: Cable outgoing type

G: Side entry cable
E: Rear entry cable

▲ Standard cable length is 2M

Ratings and Specifications

Power supply: 5 VDC / 8-30 VDC

Resolution: 5-3600 ppr

Current consumption: 30mA(Load disconnected)

Load current: 10.6mA maximum per channel. 8.5mA maximum per channel(Line driver output and push-pull with inverted signal output)

Output type: NPN/PNP open collector/Complementary/Voltage/Line Driver/Push-Pull(HTL with reverse signal)

Frequency: 100K HZ Frequency=RPM*Resolution/60

Maximum permissible speed: 6000 rpm

Shaft loading radial: 10N

Shaft loading thrust: 20N

Weight: Approx 0.2KG

Protection level: IP50

Temperature: operation(-10°C~+70°C), storage(-30°C~+85°C)

Vibration resistance: 50m/s, 10-65 HZ, 1 mm double amplitude for 2 hours each in X, Y, and Z directions

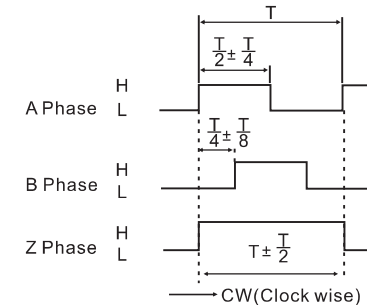
Shock resistance: 980m/s, 6m/s 2 times each in X, Y, and Z directions

Starting torque: 1.5×10^{-3} N.m Maximum

Output circuits and wave forms

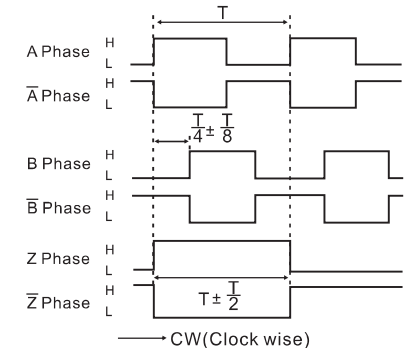
Wave forms

Complementary/Open collector(NPN&PNP)/Voltage output

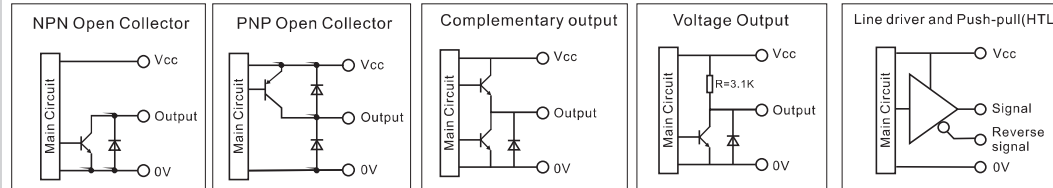


CW: As viewed from the shaft

Line Driver(RS422)/Push-pull(HTL with reverse signal)

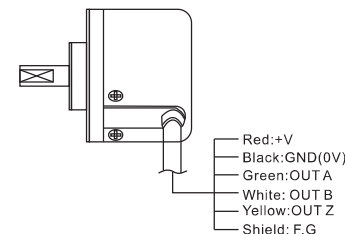


Output circuits

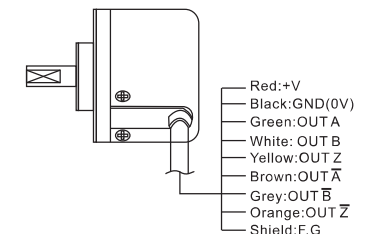


Wiring Details

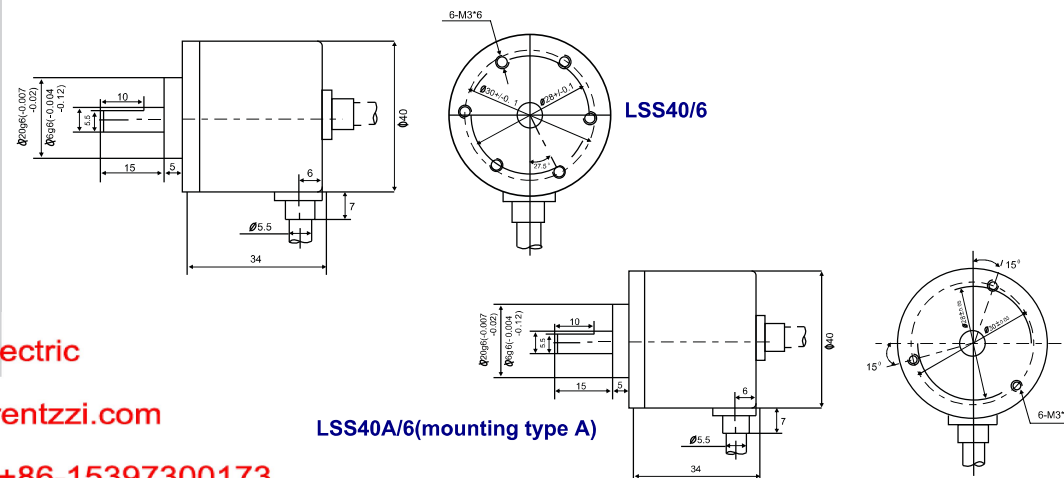
Complementary/Open collector(NPN/PNP)/Voltage output



Line Driver/Push-pull(HTL with reverse signal)



Mounting and Dimensions



Lorentzzi Electric

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LSS40A/6(mounting type A)

Incremental 50-mm-Dia. Rotary Encoder

LSS50

General purpose Encoder with
External Diameter of 50mm

- Incremental model
- External diameter of 50mm
- Resolution up to 5000 ppr.
- Various output type
- Solid shaft with Dia at 8 mm



Ordering Information

LSS50

1	2	3	4	5	6	7
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Section 1: Basic model name

LSS50 : 50mm Rotary Encoder

Section 2: Shaft Size

8: Solid shaft with Dia at 8 mm

Section 3: Resolution

10: 10 ppr
20: 20 ppr

40 50 60 80 100 120 125 150
200 225 240 250 256 300 360 400 450
480 500 512 600 625 720 750 800 900
1000 1024 1080 1200...up to 5000

Not indicated resolution is customizable

Section 4: Output phase

3: A B Z
6: A $\bar{A}$ B $\bar{B}$ Z $\bar{Z}$

Section 5: Output type

C: Complementary(also known as totem pole)
N: NPN Open collector
P: PNP Open collector
V: Voltage output
L: Line driver(**Power source 5VDC ONLY, Phase 6**)
T: Push-Pull(**With inverted signal, Phase 6**)

Section 6: Power Supply

8: 8-30 VDC(+/- 5%)
5: 5 VDC(+/- 5%)

Section 7: Cable outgoing type

G: Side entry cable
E: Rear entry cable

▲ **Standard cable length is 2M**

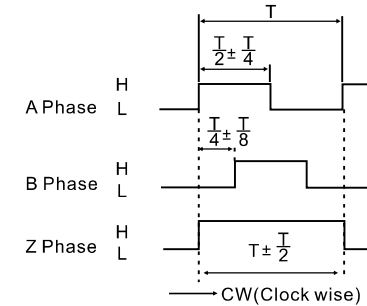
Ratings and Specifications

Power supply: 5 VDC / 8-30 VDC
Resolution: 5-5400 ppr
Current consumption: 100mA(Load disconnected)
Load current: 50mA maximum per channel 20mA maximum per channel (Line driver output)
Output type: NPN/PNP open collector/Complementary/Voltage/Line Driver/Push-Pull(HTL with reverse signal)
Frequency: 100K HZ Frequency=RPM*Resolution/60
Maximum permissible speed: 6000 rpm
Shaft loading radial: 10N
Shaft loading thrust: 20N
Weight: Approx 0.25KG
Protection level: IP50
Temperature: operation(-10°C~+70°C), storage(-30°C~+85°C)
Vibration resistance: 50m/s, 10-65 HZ, 1 mm double amplitude for 2 hours each in X, Y, and Z directions
Shock resistance: 980m/s, 6m/s 2 times each in X, Y, and Z directions
Starting torque: 1.5×10^{-3} N.m Maximum

Output circuits and wave forms

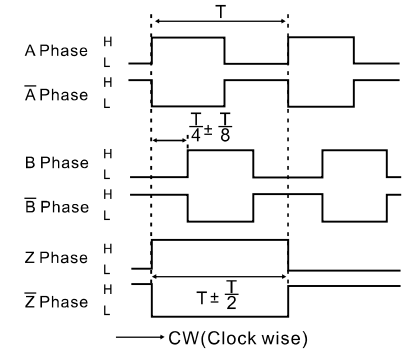
Wave forms

Complementary/Open collector(NPN&PNP)/Voltage output



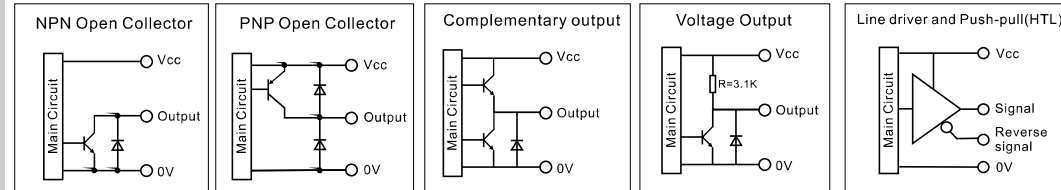
CW: As viewed from the shaft

Line Driver(RS422)/Push-pull(HTL with reverse signal)



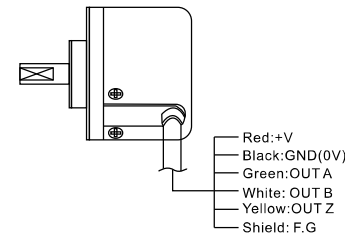
→ CW(Clock wise)

Output circuits

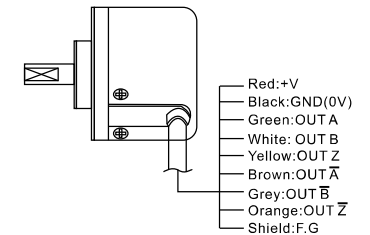


Wiring Details

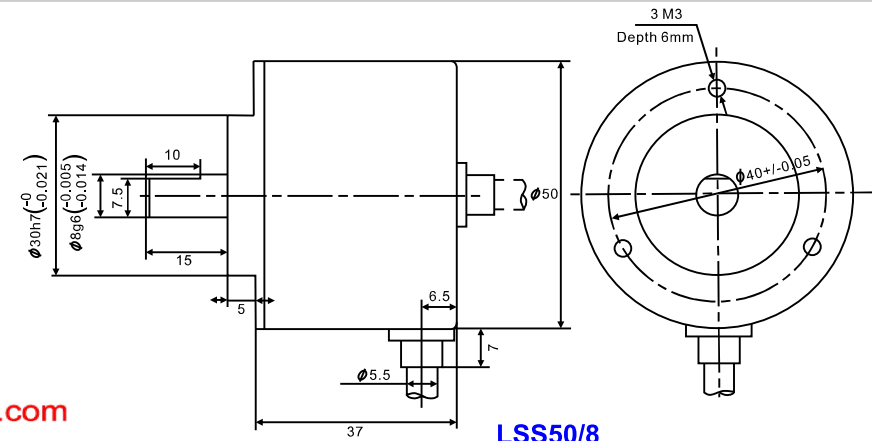
Complementary/Open collector(NPN/PNP)/Voltage output



Line Driver/Push-pull(HTL with reverse signal)



Mounting and Dimensions



Lorentzzi Electric

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LSS50/8

Incremental 58-mm-Dia. Rotary Encoder

LSS58A/LSS58B/LSS58C/LSS58D

General purpose encoder with
external Diameter of 58mm

- Incremental model
- External diameter of 58mm
- Resolution up to 5400 ppr.
- Various output type
- Solid shaft with Dia at 5/6/10 mm



Ordering Information

THP58A/THPB/THP58C/THP58D -

1	2	3	4	5	6	7
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Section 1: Basic model name

LSS58A: 58mm Rotary encoder (**Mounting type A**)
LSS58B: 58mm Rotary encoder (**Mounting type B**)
LSS58C: 58mm Rotary encoder (**Mounting type C**)
LSS58D: 58mm Rotary encoder (**Mounting type D**)

Refer to drawings for the difference between them.

Section 2: Shaft Size

5: Solid shaft with Dia at 5 mm
6: Solid shaft with Dia at 6 mm
10: Solid shaft with Dia at 10 mm

Section 3: Resolution

10: 10 ppr
20: 20 ppr

40 50 60 80 100 120 125 150
200 225 240 250 256 300 360 400 450
480 500 512 600 625 720 750 800 900
1000 1024 1080 1200...up to 5400

Not indicated resolution is customizable

Section 4: Output phase

3: A B Z
6: A $\bar{A}$ B $\bar{B}$ Z $\bar{Z}$

Section 5: Output type

C: Complementary(also known as totem pole)
N: NPN Open collector
P: PNP Open collector
V: Voltage output
L: Line driver(**Power source 5VDC ONLY, Phase 6**)
T: Push-Pull(**With inverted signal, Phase 6**)

Section 6: Power Supply

8: 8-30 VDC(+/- 5%)
5: 5 VDC(+/- 5%)

Section 7: Cable outgoing type

G: Side entry cable
X: Side entry plug

▲ Standard cable length is 2M

Ratings and Specifications

Power supply: 5 VDC / 8-30 VDC
Resolution: 5-5400 ppr
Current consumption: 100mA(Load disconnected)
Load current: 50mA maximum per channel 20mA maximum per channel (Line driver output)
Output type: NPN/PNP open collector/Complementary/Voltage/Line Driver/Push-Pull(HTL with reverse signal)
Frequency: 100K HZ Frequency=RPM*Resolution/60
Maximum permissible speed: 6000 rpm
Shaft loading radial: 30N
Shaft loading thrust: 40N
Weight: Approx 0.3KG
Protection level: IP50
Temperature: operation(-10°C~+70°C), storage(-30°C~+85°C)
Vibration resistance: 50m/s, 10-65 HZ, 1 mm double amplitude for 2 hours each in X, Y, and Z directions
Shock resistance: 980m/s, 6m/s 2 times each in X, Y, and Z directions
Starting torque: 6×10^{-3} N.m Maximum

Lorentzzi Electric

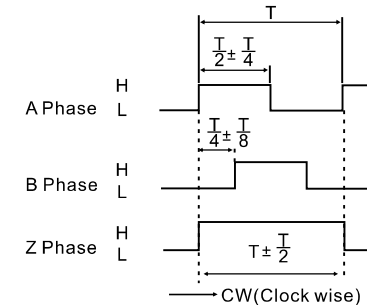
Website: lorentzzi.com

WhatsApp: +86-15397300173 LSS58C(mounting type C)

Output circuits and wave forms

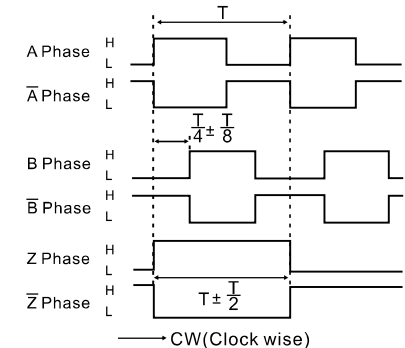
Wave forms

Complementary/Open collector(NPN&PNP)/Voltage output

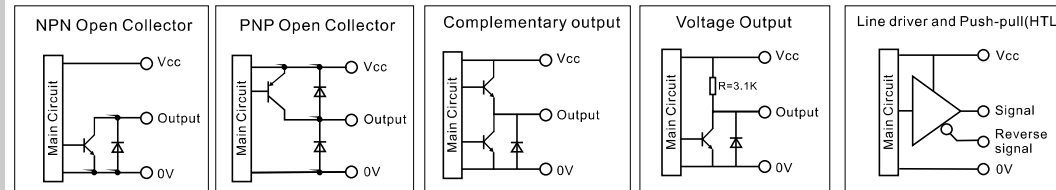


CW: As viewed from the shaft

Line Driver(RS422)/Push-pull(HTL with reverse signal)

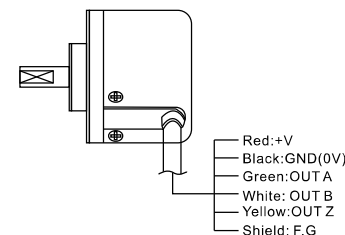


Output circuits

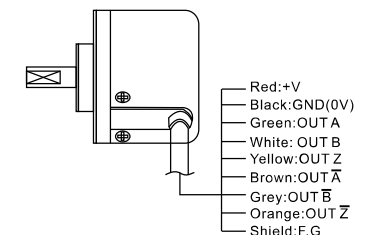


Wiring Details

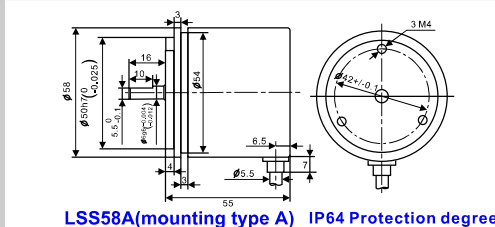
Complementary/Open collector(NPN/PNP)/Voltage output



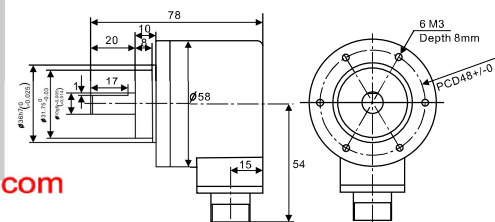
Line Driver/Push-pull(HTL with reverse signal)



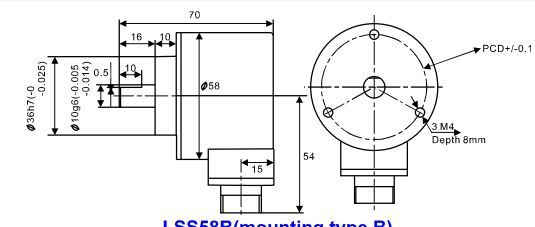
Mounting and Dimensions



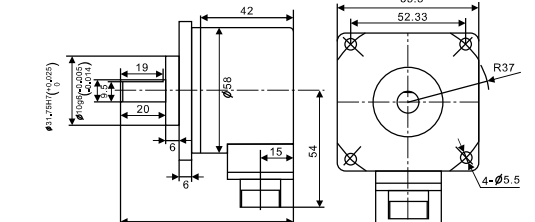
LSS58A(mounting type A) IP64 Protection degree



LSS58C(mounting type C)



LSS58B(mounting type B)



LSS58D(mounting type D, with flange)

Incremental 68-mm-Dia. Rotary Encoder

LSS68A/LSS68B

with mounting flange

General purpose encoder with external Diameter of 68mm

- Incremental model
- External diameter of 68mm
- Resolution up to 5400 ppr.
- Various output type
- Solid shaft with Dia at 15 mm
- **With mounting flange**



Ordering Information

LSS68A/LSS68B -

1	2	3	4	5	6	7
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Section 1: Basic model name

LSS68A: 68mm Rotary Encoder(Shape A)
LSS68B: 68mm Rotary Encoder(Shape B)

[Refer to drawings for the difference](#)

Section 2: Shaft Size

15: Solid shaft with Dia at 15 mm

Section 3: Resolution

10: 10 ppr
20: 20 ppr

40 50 60 80 100 120 125 150
200 225 240 250 256 300 360 400 450
480 500 512 600 625 720 750 800 900
1000 1024 1080 1200...up to 5400

Not indicated resolution is customizable

Section 4: Output phase

3: A B Z
6: A $\bar{A}$ B $\bar{B}$ Z $\bar{Z}$

Section 5: Output type

C: Complementary(also known as totem pole)
N: NPN Open collector
P: PNP Open collector
V: Voltage output
L: Line driver(**Power source 5VDC ONLY, Phase 6**)
T: Push-Pull(**With inverted signal, Phase 6**)

Section 6: Power Supply

8: 8-30 VDC(+/- 5%)
5: 5 VDC(+/- 5%)

Section 7: Cable outgoing type

G: Side entry cable
X: Side entry plug

▲Standard cable length is 2M

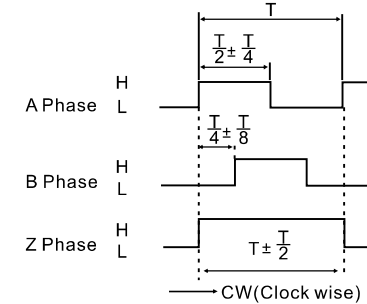
Ratings and Specifications

Power supply: 5 VDC / 8-30 VDC
Resolution: 5-5400 ppr
Current consumption: 100mA(Load disconnected)
Load current: 50mA maximum per channel 20mA maximum per channel (Line driver output)
Output type: NPN/PNP open collector/Complementary/Voltage/Line Driver/Push-Pull(HTL with reverse signal)
Frequency: 100K HZ Frequency=RPM*Resolution/60
Maximum permissible speed: 6000 rpm
Shaft loading radial: 50N
Shaft loading thrust: 85N
Weight: Approx 0.6KG
Protection level: IP54(IP64 available on request)
Temperature: operation(-10°C~+70°C), storage(-30°C~+85°C)
Vibration resistance: 50m/s, 10-200 HZ, 1 mm double amplitude for 2 hours each in X, Y, and Z directions
Shock resistance: 980m/s, 6m/s 2 times each in X, Y, and Z directions
Starting torque: 5×10^{-2} N.m Maximum

Output circuits and wave forms

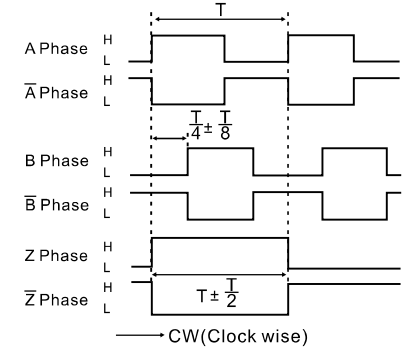
Wave forms

Complementary/Open collector(NPN&PNP)/Voltage output

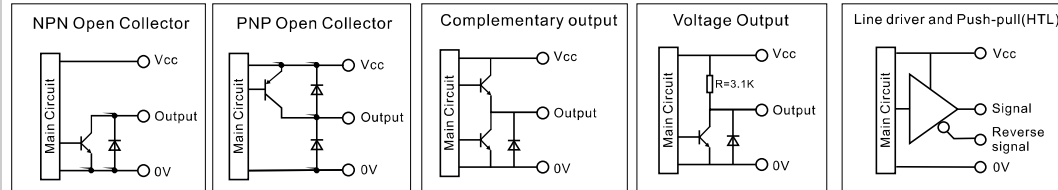


CW: As viewed from the shaft

Line Driver(RS422)/Push-pull(HTL with reverse signal)

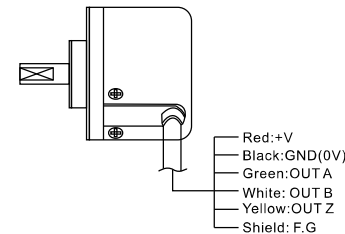


Output circuits

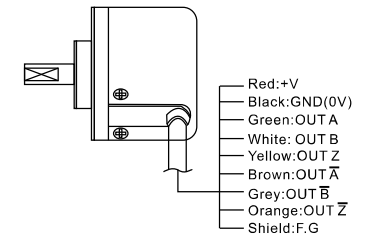


Wiring Details

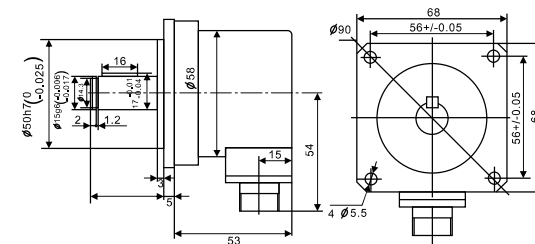
Complementary/Open collector(NPN/PNP)/Voltage output



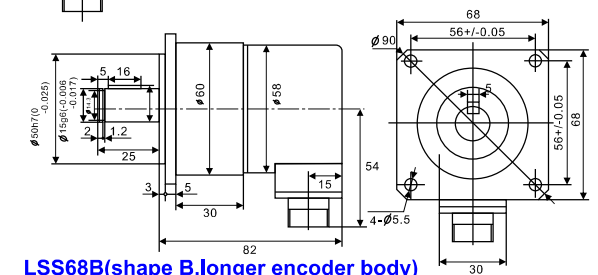
Line Driver/Push-pull(HTL with reverse signal)



Mounting and Dimensions



LSS68A(shape A,shorter encoder body,popular)



LSS68B(shape B,longer encoder body)

Lorentzzi Electric

Website: lorentzzi.com

WhatsApp: +86-15397300173

LSS70



- ## Ordering Information

Section 1: Basic model name

Section 2: Shaft Size

Section 3: Resolution

40 50 60 80 100 120 125 150
200 225 240 250 256 300 360 400 450
480 500 512 600 625 720 750 800 900
1000 1024 1080 1200...up to 5400

Section 4: Output phase

Section 5: Output type

Section 6: Power Supply

Section 7: Cable outgoing type

▲ Standard cable length is 2M

Ratings and Specifications

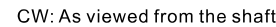
Lorentzzi Electric

Website: lorentzzi.com

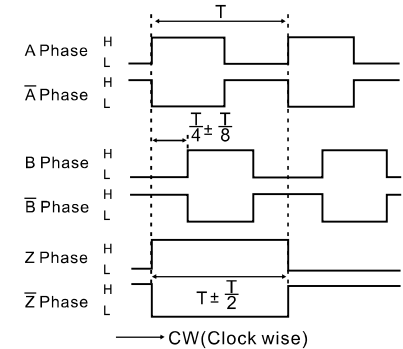
WhatsApp: +86-15397300173

Wave forms

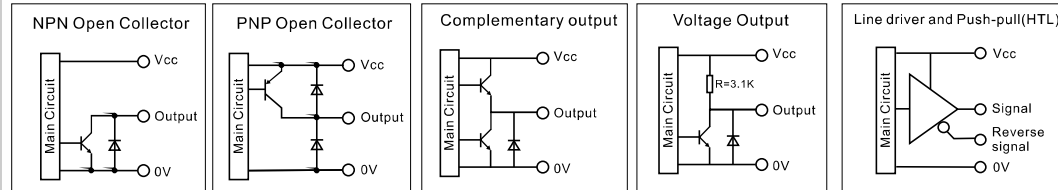
Complementary/Open collector(NPN&PNP)/Voltage output



Line Driver(RS422)/Push-pull(HTL with reverse signal)

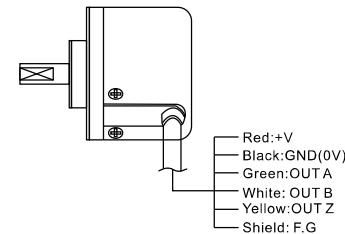


Output circuits

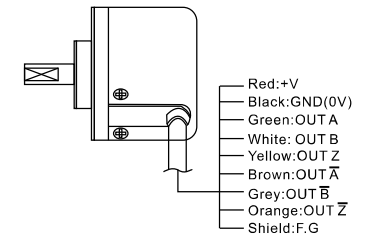


Wiring Details

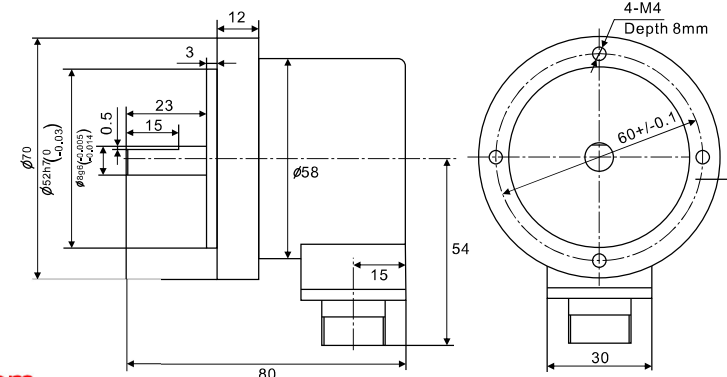
Complementary/Open collector(NPN/PNP)/Voltage output



Line Driver/Push-pull(HTL with reverse signal)



Mounting and Dimensions



LSS70

Incremental 78-mm-Dia. Rotary Encoder

LSS78A/LSS78B

General purpose encoder with external Diameter of 78mm

- Incremental model
- External diameter of 78mm
- Resolution up to 5400 ppr.
- Various output type
- Solid shaft with Dia at 10 mm



Ordering Information

LSS78A/LSS78B -

1	2	3	4	5	6	7
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Section 1: Basic Model Name

LSS78A: 78mm Rotary Encoder(Mounting Type A)

LSS78B: 78mm Rotary Encoder(Mounting Type B)

[Refer to drawings for the difference](#)

Section 2: Shaft Size

10: Solid shaft with Dia at 10 mm

Section 3: Resolution

10: 10 ppr

20: 20 ppr

40 50 60 80 100 120 125 150
200 225 240 250 256 300 360 400 450
480 500 512 600 625 720 750 800 900
1000 1024 1080 1200...up to 5400

Not indicated resolution is customizable

Section 4: Output phase

3: A B Z

6: A $\bar{A}$ B $\bar{B}$ Z $\bar{Z}$

Section 5: Output type

C: Complementary(also known as totem pole)

N: NPN Open collector

P: PNP Open collector

V: Voltage output

L: Line driver(**Power source 5VDC ONLY, Phase 6**)

T: Push-Pull(**With inverted signal, Phase 6**)

Section 6: Power Supply

8: 8-30 VDC(+/- 5%)

5: 5 VDC(+/- 5%)

Section 7: Cable outgoing type

G: Side entry cable

X: Side entry plug

▲Standard cable length is 2M

Ratings and Specifications

Power supply: 5 VDC / 8-30 VDC

Resolution: 5-5400 ppr

Current consumption: 100mA(Load disconnected)

Load current: 50mA maximum per channel 20mA maximum per channel (Line driver output)

Output type: NPN/PNP open collector/Complementary/Voltage/Line Driver/Push-Pull(HTL with reverse signal)

Frequency: 100K HZ Frequency=RPM*Resolution/60

Maximum permissible speed: 6000 rpm

Shaft loading radial: 25N

Shaft loading thrust: 35N

Weight: Approx 0.42KG

Protection level: IP50

Temperature: operation(-10°C~+70°C), storage(-30°C~+85°C)

Vibration resistance: 50m/s, 10-200 HZ, 1 mm double amplitude for 2 hours each in X, Y, and Z directions

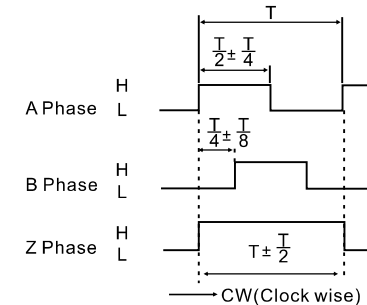
Shock resistance: 980m/s, 6m/s 2 times each in X, Y, and Z directions

Starting torque: 5×10^{-3} N.m Maximum

Output circuits and wave forms

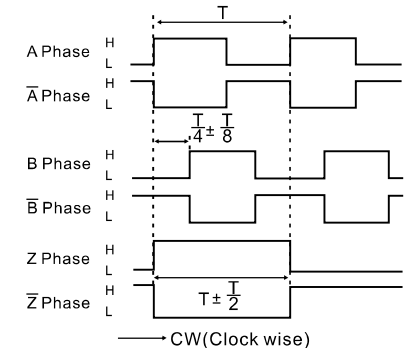
Wave forms

Complementary/Open collector(NPN&PNP)/Voltage output

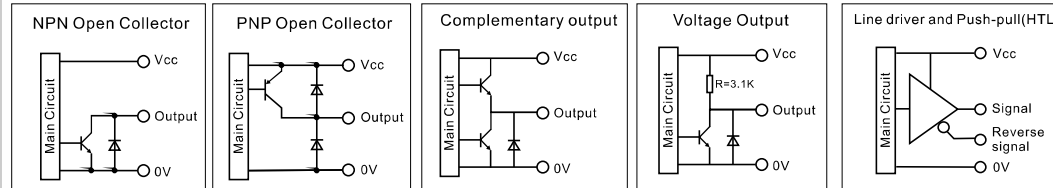


CW: As viewed from the shaft

Line Driver(RS422)/Push-pull(HTL with reverse signal)

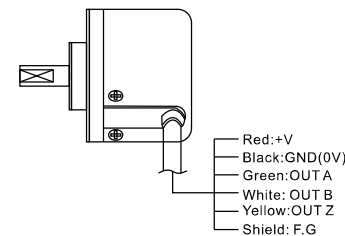


Output circuits

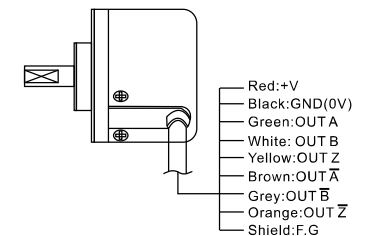


Wiring Details

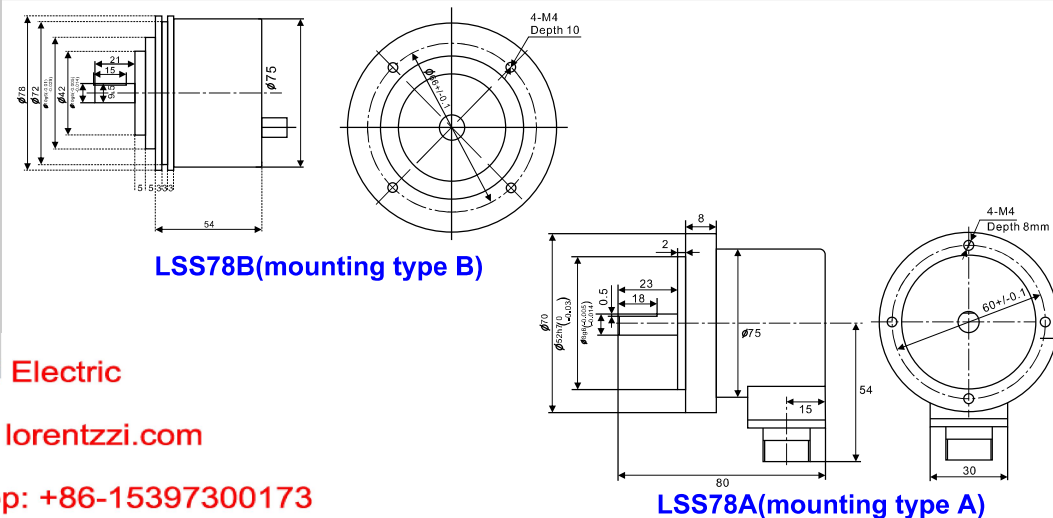
Complementary/Open collector(NPN/PNP)/Voltage output



Line Driver/Push-pull(HTL with reverse signal)



Mounting and Dimensions



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