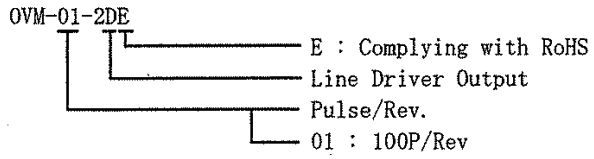


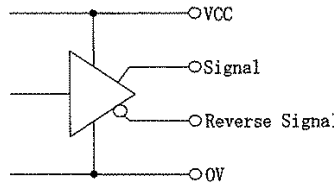
Specification for Manual Pulse Generator

A. Model



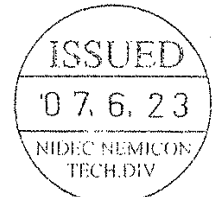
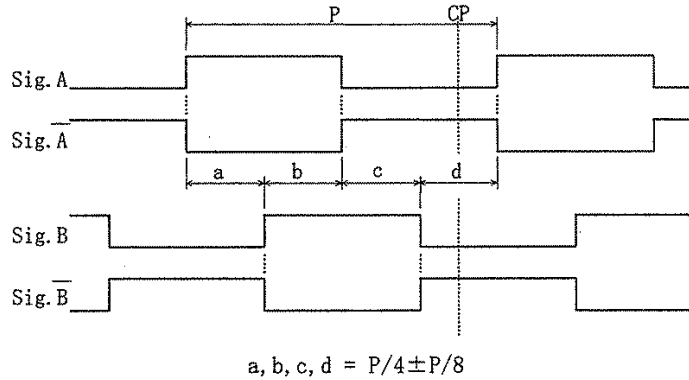
B. Electrical Specification.

- | | |
|--|---|
| 1. Power Source | DC +5V ± 5% |
| 2. Current Consumption | 150mA or less (no Load) |
| 3. Pulse Per Revolution | 100P/Rev |
| 4. Output Signal | Phase A and Phase B. Two signals with the phase difference of 90° . |
| 5. Output Type | Line Driver (Equivalent to AM26LS31) |
| 6. Output Voltage | [H] Level is 2.5V lower than Power Voltage
[L] Level is 0.5V or less (at maximum sink current) |
| 7. Maximum Response Frequency | 5kHz |
| 8. Response speed of output voltage (Rise and Fall Time) | 200ns or less (at 20mA) |
| 9. Maximum Sink Current | 20mA or less (at "L" Level) |
| 10. Insulation Resistance | 50MΩ or more (Between ground line and case with DC500V mega ohm meter) |
| 11. Output Circuit | |



12. Output Signal Form

CW rotation → clockwise rotation looked from front side (CP : click points)



						Appl.	Check	Design	Draw	
						Mizuno	Nishimori	Takayama		
						07.6.22	07.6.22	07.6.22		
						Title	Specification 1/2			
						Number	R-Z41515-13			
Rev.	Date	Make	Description	Check	Appl.	NIDEC NEMICON CORPORATION			Rev.	



C. Mechanical Specification.

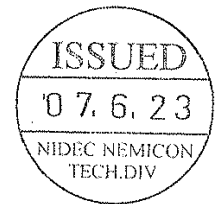
- 1. Starting Torque 1.96×10⁻² to 5.88×10⁻² N·m (at 20°C)
- 2. Maximum Load to Shaft Thrust : 9.8N
Radial : 19.6N
- 3. Bearing Life Not less than 1 million rotations (at 200 r/min.)
- 4. Maximum Rotation Speed Peak 600 r/min. normally not more than 200 r/min.
- 5. Mass 400g or less
- 6. Indication and Click Points Difference between indication and engraved line on a wheel is within 1/4 of the pitch of wheel engraving at each click point
- 7. Structure The structure is vibration resistant and protected from the intrusion of dust and oil from the front panel.

D. Environmental Specification.

- 1. Operating Temperature -10°C to +60°C
- 2. Storage Temperature -30°C to +80°C
- 3. Humidity 85% RH or less (no condensation)
- 4. Vibration 10 to 55Hz. Amplitude : 1.5mm p-p
(X, Y, and Z direction, each for 2 hours)
- 5. Shock 490 m/s², 11ms
(X, Y, and Z direction, each for 3 times)

E. Outline

- 1. Outline Drawing Refer to R-G41515-15



						Appl.	Check	Design	Draw
						Mizuno	Nishimori	Tanaka	
						07.6.22	07.6.22	07.6.22	
						Title	Specification 2/2		
						Number	R-Z41515-14		
						NIDEC NEMICON CORPORATION			Rev.
Rev.	Date	Made	Description	Check	Appl.				

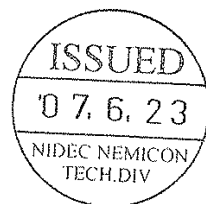


Environmental specifications

A RoHS Compliance

Corresponding to RoHS.

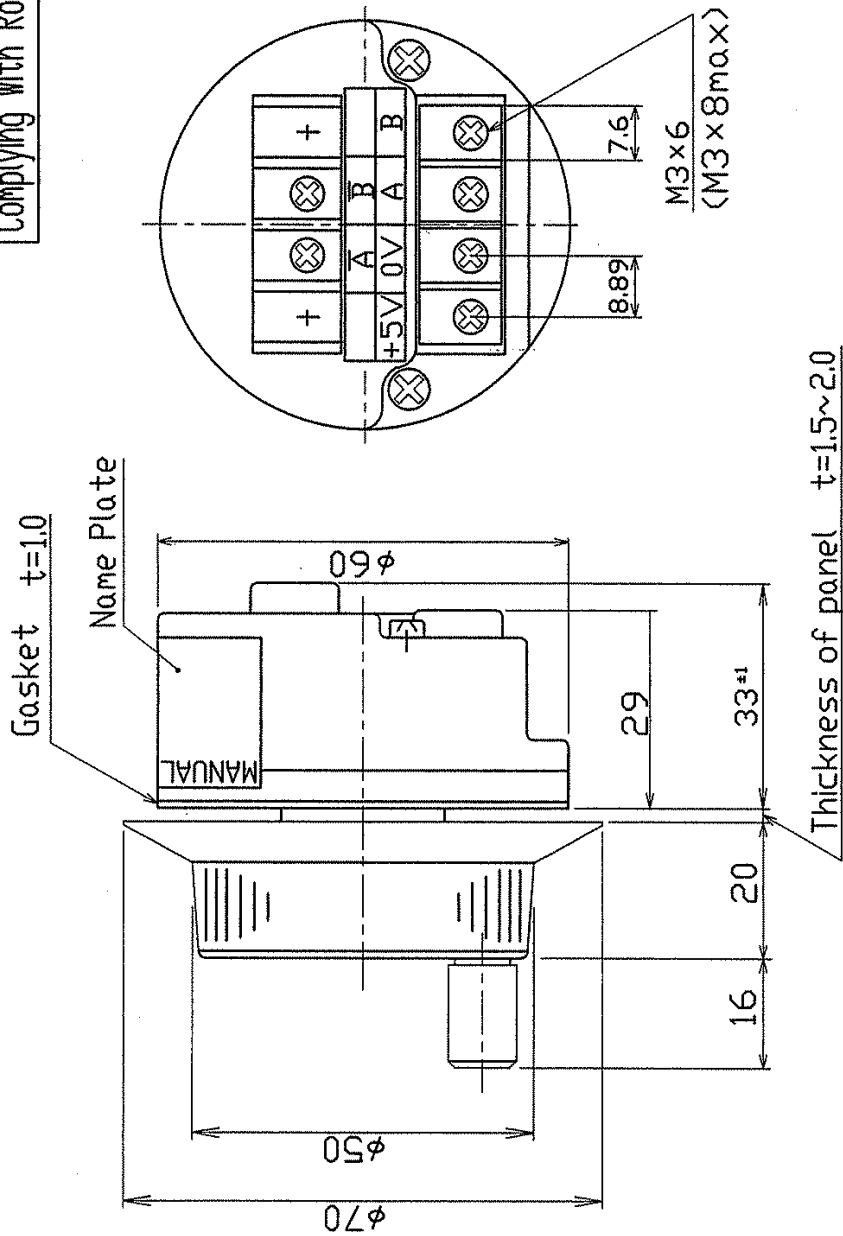
Pb, Hg, Cd, Hexavalent chromium, PBB, PBDE are below a fiducial point.



						<table border="1"> <tr> <td>Appl.</td> <td>Check</td> <td>Design</td> <td>Draw</td> </tr> <tr> <td>Mizuno</td> <td>Nishimori</td> <td>Watanabe</td> <td>—</td> </tr> <tr> <td>07.2.14</td> <td>07.2.22</td> <td>07.2.19</td> <td></td> </tr> <tr> <td>Title</td> <td colspan="3">Specification</td> </tr> <tr> <td>Number</td> <td colspan="2">R-Z41475-99</td> <td>A</td> </tr> <tr> <td colspan="4">NIDEC NEMICON CORPORATION</td> </tr> <tr> <td colspan="3"></td> <td>AD DES</td> </tr> </table>	Appl.	Check	Design	Draw	Mizuno	Nishimori	Watanabe	—	07.2.14	07.2.22	07.2.19		Title	Specification			Number	R-Z41475-99		A	NIDEC NEMICON CORPORATION							AD DES
Appl.	Check	Design	Draw																															
Mizuno	Nishimori	Watanabe	—																															
07.2.14	07.2.22	07.2.19																																
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NIDEC NEMICON CORPORATION																																		
			AD DES																															
Rev.	Date	Made	Description	Check	Appl.																													

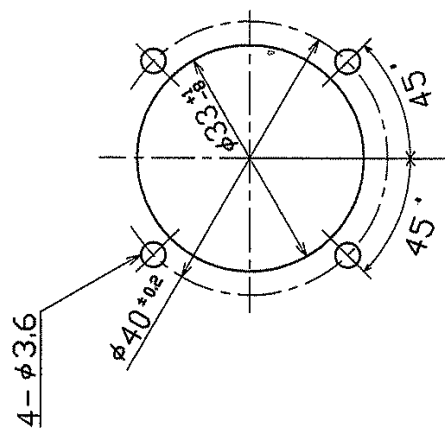
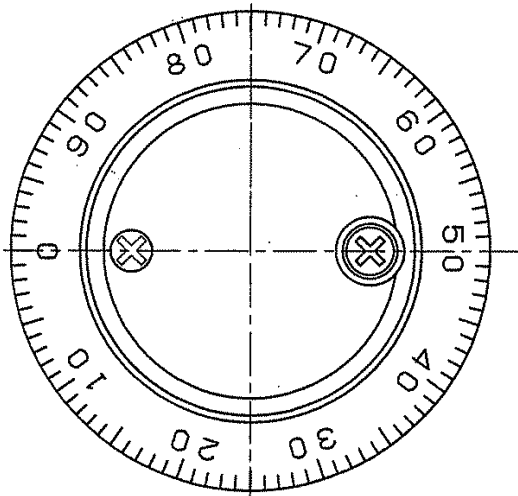


Complying with RoHS



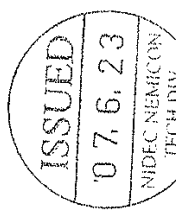
Thickness of panel $t=1.5\sim 2.0$

TOLERANCE	D ≤ 6	±0.1
	6 < D ≤ 30	±0.2
	30 < D ≤ 120	±0.3
	120 < D ≤ 315	±0.5
	315 < D ≤ 1000	±0.8



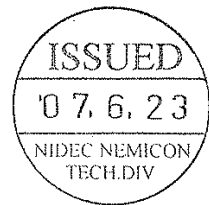
Cutting of panel

SCALE	1/1	MODEL	QVM	PRIC No
MATERIAL		DATE		CUSTOMER
PRI-CESSING		PARTS LIST No.		LINE SET
APPR CHECK DESIGN DRAWN EXT.		NAME	External Dimension	
Mizuno	Nishimori	DIMEN(N)	R-G41515-15	
CHK/APP	107.6.23/107.6.22/107.6.22	NEMICON CORPORATION		
AD DATE/DEN	CHANGE	AD. DES.		



Caution

- Due to precision parts inside, please handle with care. Strong shock may destroy its function.
- Invasion of foreign object like oil may interfere output signals. Please take care the working environment.
- Please concentrate Shaft and coupling accurately. Otherwise performances are not guaranteed.
- Please do not over load to Shaft, and do not hammer or force to install it. It may be disordered.
- Do not disassemble it. It may be disordered.
- Vibration to Encoder may cause disorder. Please take care the mounting place.
- Please do not over charged. It may be disordered.
- Please do not have miswiring. It may be disordered.
- Wiring shall be while not charged. It may be disordered.
- Please provide surcharge voltage absorber, when it is generated. Otherwise it may be disordered.
- Sparks form switches or relays in circuits shall be eliminated absorber. Otherwise it may be disordered.
- Please do not layout signal output along with other power lines. It may be disordered.
- Please keep away from welding machine or electric fireplace, or necessary electro-magnetic shield.
- When with extension cable, please use Shield Cable. Otherwise it may be disordered.
- While 0.1secafter power on, and 0.5secafter power off. Its signals shall not be used.
- No guarantee in other use than its specification.
- When you find problem on the product. Please let us know immediately.



						APPR	CHECK	DESIGN	DRAWN
						<i>Gawa</i>	<i>Tutiya</i>	<i>Watanabe</i>	
						02.7.24	02.7.24	02.07.24	
						NAME	Caution		
						EXT. DIMEN.NO	Z40782-01		
						NIDEC NEMICON CORPORATION			
AD.	DATE	DEN.	CHANGE	CHK	APR				



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