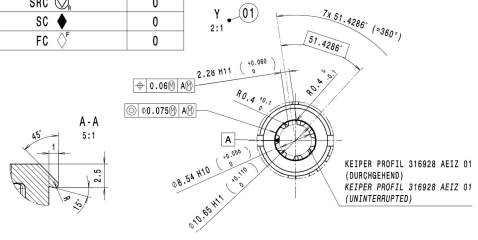
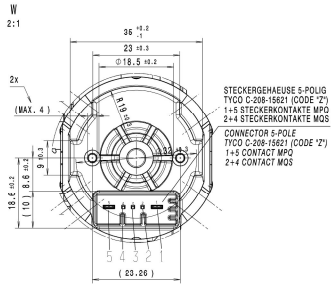
SAMPLING AND RELEASE ACCORDING TO
HQ-P-7.3 AND NWA SUPPLIER MANUAL

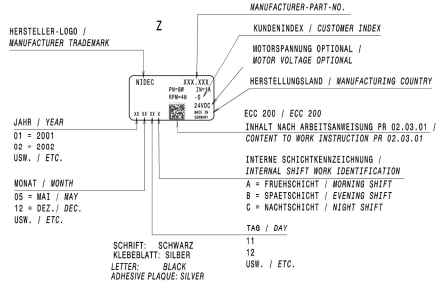
SPECIAL CHARACTERISTIC	QUANTITY
SRC S	0
SC ◆	0
FC F	0

REV. NO.	ZONE	DESCRIPTION	DATE	NAME
50001014		NEUER DECKEL G / NEW HOUSING COVER	2015-06-26	BAEUERLEG





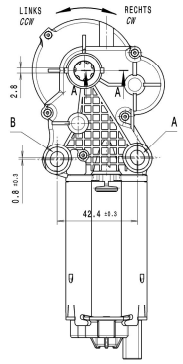
(VERSTEMMBEREICH Ø MAX.44)
(STAKED AREA Ø MAX. 44)

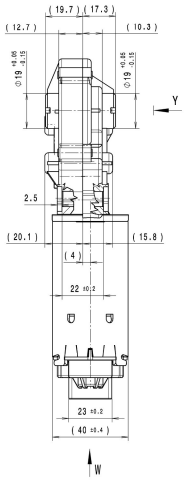


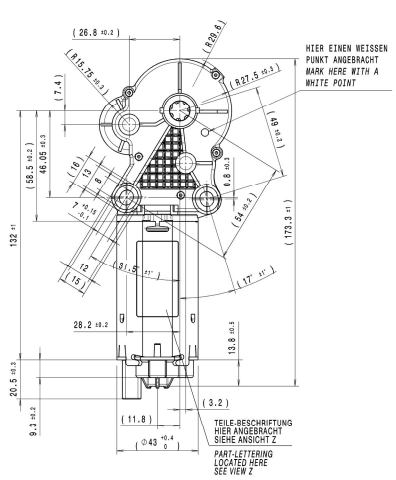
HOHES RUECKDREHMOMENT
HIGH BACK TORQUE

GERINGES RUECKDREHMOMENT
LOW BACK TORQUE

DREHRICHTUNG
DIRECTION OF ROTATION







A) ALLGEMEINES

1.	PRUEFSPANNUNG	UP = 24V DC
2.	LEERLAUFDREHZAHL	nO = 45 - 60 min-1
**3.	LEERLAUFSTROM	IO = EFF. 0.8 A MAX 1.5 A
4.	GETRIEBEHEMMUNG	= NACH 20 ZYKLEN (DEFINITION NACH C1): 0.9Nm-3.6Nm (RL+LL) OHNE KURZSCHLUSSBREMSE 1.7Nm-4.6Nm (RL+LL) MIT KURZSCHLUSSBREMSE NACH 10.000 ZYKLEN: MIN.0.5Nm BIS 1.5Nm (RL+LL) OHNE KURZSCHLUSSBREMSE 1.0Nm-2.5Nm (RL+LL) MIT KURZSCHLUSSBREMSE
5.	GERAEUSCHPEGEL	= TESTEN BEI 1.5Nm: LUFTSCHALL NACH "SNF 46.402" UND NACH NIDEC CMS_405_794
6.	UMGEBUNGSTEMPERATUR	= -40°C BIS +85°C
7.	SCHUTZART	IP = 30

B) BETRIEBSDATEN

	NENNMOMENT (NENNLAST) MN	= 1.5 Nm
	NENNMOMENT MAX. WERT MNMAX	= 4.6 Nm

C) LEBENSDAUERPRUEFUNG

1.	ZYKLUS: CW: 6 S BEI 1.5Nm PAUSE: 4.8 S CCW: 3.1 S BEI 1.5Nm INNERHALB VON 0.4 S AUF 13Nm PAUSE: 20 S	
2.	MIN. LEBENSDAUER	= 200 000 ZYKLEN BEI RT
3.	PRUEFSPANNUNG	= 18V

D) BLOCKLAUFTEST

1.	BLOCKMOMENT	= 20 Nm
2.	BLOCKZYKLEN	= 10 000
3.	VERZOEGERUNGSZEIT	= 250 ms
4.	BLOCKHALTEZEIT	= 1 S
5.	PAUSENZEIT	= 60 S
6.	RECHTS-LINKSLAUF AUF GLEICHEM ZAHNSEGMENT	

E) PUSHBETAETIGUNG

1. GETRIEBEFESTIGKEIT 32 Nm BEI 250 ms BESCHLEUNIGUNG (ANKER WAEHREND DES VERSUCHES BLOCKIERT)
2. MIN. 30.000 MAL BEI RT AUF DEMSELBEN ZAHNSEGMENT (RL+LL)

F) CRASHTEST

1. GETRIEBEFESTIGKEIT 35 Nm BEI 90 ms BESCHLEUNIGUNG
2. MIN. 50 MAL BEI RT AUF DEMSELBEN ZAHNSEGMENT (RL+LL)

G) MITGELTENDE UNTERLAGEN

1. ALLG. SPEZIFIKATION INDUSTRIEMOTOREN NIDEC NACH SNF 46.402 (AUSGABE VOM 07.01.2010) DARUEBERHINAUS GEHENDE ANFORDERUNGEN HAT DER KUNDE DURCH PRUEFUNGEN IM SYSTEM SICHERZUSTELLEN. HIERFUER UEBERNIMMT NIDEC KEINE HAFTUNG.

A) GENERAL

1.	TEST VOLTAGE	UP = 24V DC
2.	NO LOAD SPEED	nO = 45 - 60 min-1
**3.	NO LOAD CURRENT	IO = EFF. 0.8 A MAX 1.5 A
4.	SELF LOCKING	= AFTER 20 CYCLES (AS DEFINED IN C1): 0.9Nm-3.6Nm (CW+CCW) WITHOUT ELECTRICAL SHORT CIRCUIT BRAKE 1.7Nm-4.6Nm (CW+CCW) WITH ELECTRICAL SHORT CIRCUIT BRAKE AFTER 10000 CYCLES: MIN.0.5Nm TO 1.5Nm (CW+CCW) WITHOUT ELECTRICAL SHORT CIRCUIT BRAKE 1.0Nm-2.5Nm (CW+CCW) WITH ELECTRICAL SHORT CIRCUIT BRAKE
5.	NOISE LEVEL	= TESTING BY 1.5Nm: AIRBORNE NOISE ACCORDING TO "SNF 46.402" AND TO NIDEC CMS_405_794
6.	TEMPERATURE	= -40°C TO +85°C
7.	PROTECTION	IP = 30

B) RUNNING DATA

	LOAD	WN = 1.5 Nm
	MAX. LOAD	WNMAX = 4.6 Nm

C) LIFE TEST

1.	CYCLE: CW: 6 S AT 1.5Nm BREAK: 4.8 S CCW: 3.1 S AT 1.5Nm WITHIN 0.4 S TO 13Nm BREAK: 20 S	
2.	MIN. LIFE TIME	= 200 000 CYCLES AT RT
3.	TEST VOLTAGE	= 18V

D) STALLTEST

1.	STALLTORQUE	= 20 Nm
2.	STALL CYCLES	= 10 000
3.	TIME LAG	= 250 ms
4.	STALL TIME	= 1 S
5.	INTERVAL TIME	= 60 S
6.	CW-CCW RUN ON SAME GEAR SEGMENT	

E) PUSH MODUS

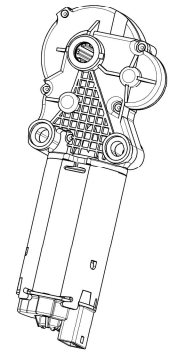
1. DRIVE STABILITY 32 Nm AT 250 ms ACCELERATION (ARMATURE BLOCKED WHILE TESTING)
2. MIN. 30.000 TIMES AT RT ON SAME GEAR SEGMENT (CW+CCW)

F) CRASHTEST

1. DRIVE STABILITY 35 Nm AT 90 ms ACCELERATION
2. MIN. 50 TIMES AT RT ON SAME GEAR SEGMENT (CW+CCW)

G) OTHER VALID DOCUMENTS

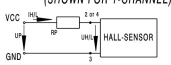
1. GEN. SPECIFICATION INDUSTRIAL MOTORS NIDEC ACC. SNF 46.402 (EDITION A1 07.01.2010) ADDITIONAL REQUIREMENTS, WHICH ARE NOT CONTENT OF THE ABOVE SPECIFICATION, HAVE TO BE SECURED BY THE CUSTOMER. FOR THIS ADDITIONAL REQUIREMENTS NIDEC CAN TAKE NO PRODUCT LIABILITY.



VERZAHNUNGSDATEN	*GEAR TOOTH DATA*			
UEBERSETZUNG	*RATIO*	iges	=	1:86.625
GANGZAHL	*NO. OF STARTS*	z1	=	2
ZAEHNEZAHL	*NO. OF TEETH*	z2	=	33
NORMALMODUL	*NORMAL MODULE*	mn	=	0.7
ZAEHNEZAHL	*NO. OF TEETH*	z3	=	8
ZAEHNEZAHL	*NO. OF TEETH*	z4	=	42
NORMALMODUL	*NORMAL MODULE*	mn	=	1.0
SCHNECKENWELLENMATERIAL	*WORM SHAFT MATERIAL*	S1	=	ETG 88
ZAHNRADMATERIAL	*GEAR WHEEL MATERIAL*	S1	=	DELRIN 100 / ww. TENAC 3010
ZAHNRADMATERIAL	*GEAR WHEEL MATERIAL*	S2	=	DELRIN 100 / ww. TENAC 3010

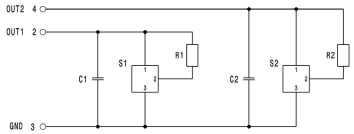
PRUEFSCHALTBILD ENCODER MIT DOPPEL HALL
(ZEIGT NUR 1-KANAL)

TEST CIRCUIT ENCODER WITH DUAL HALL
(SHOWN FOR 1-CHANNEL)



UP = 8,0V±0.02V
RP = 340 Ohm ±0.2%
0.2V ≤ UL ≤ 0.6V
6.2V ≤ UH ≤ 7.5V

SCHALTPLAN ENCODER MIT DOPPEL HALL
SCHEMATIC ENCODER WITH DUAL HALL



HALL -IC: A1221LLHLT-T W.W. MICRONAS HAL 1502

STROMAUFNAHME: I ≤ 25 mA
CURRENT CONSUMPTION

TEMPERATURBEREICH: = -40°C BIS +85°C
TEMPERATURE RANGE

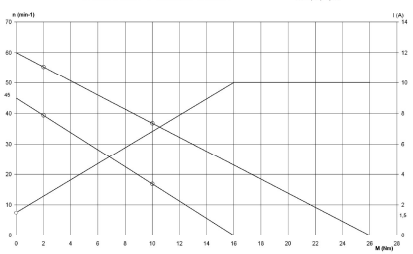
BETRIEBSSPANNUNGSBEREICH 4.5V - 16V
OPERATING VOLTAGE RANGE 4.5V - 16V

NENNSPANNUNG 24V
PRUEFSPANNUNG 24V±0.10V
NOMINAL VOLTAGE 24V
TEST VOLTAGE 24V±0.10V

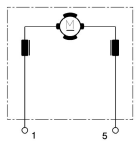
** ○ MESSPUNKTE 100% PRUEFUNG
** ○ *MEASURE POINTS 100% TEST*

GEMESSEN MIT
Rv=0.0 OHM
MEASURED WITH
Rv=0.0 OHM

KENNLINIE / *MOTOR CURVE*



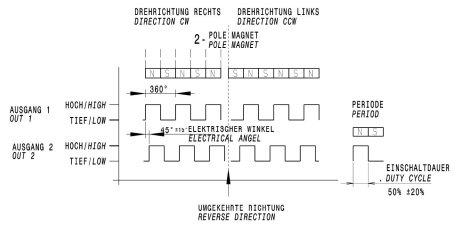
SCHALTBILD MOTOR
CIRCUIT DIAGRAM MOTOR



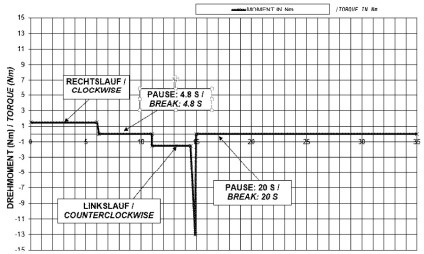
LINKSLAUF BEI + AUF 1
- AUF 5
RECHTSLAUF BEI + AUF 5
- AUF 1

CCW ROTATION WITH + TO 1
- TO 5
CW ROTATION WITH + TO 5
- TO 1

ENCODER AUSGANG
ENCODER OUTPUT



GETRIEBEABTRIEBSMOMENT EINES ZYKLUS
GERING DRIVE TORQUE OF ONE CYCLE



ZEIT IN SEKUNDEN
TIME IN SECONDS

WERKSTOFF: GETRIEBEZAHNRAD DELRIN 100 WW. TENAC 3010
MATERIAL: TRANSMISSION GEAR DELRIN 100 WW. TENAC 3010

KONFORM EU-RICHTLINIE 2000/53/EG UND ANHANG II DER RICHTLINIE IN AKTUELLER FASSUNG (BLEIFREI, USW.)
CONFORM TO EU-DIRECTIVE 2000/53/EC AND ANNEX II TO DIRECTIVE IN MOST RECENT VERSION (LEAD-FREE, ETC.)

KONFORM EU-RICHTLINIE 2002/95/EG (ROHS) (BLEIFREI, USW.)
CONFORM TO EU-DIRECTIVE 2002/95/EC (ROHS) (LEAD-FREE, ETC.)

LIMIT DIMENSIONS FOR NOMINAL SIZE RANGES IN mm	...6	>6...30	>30...120	>120...400	>400...1000
TOLERANCES FOR NOMINAL SIZE RANGES IN mm	0,1	0,2	0,3	0,5	0,8
LIMIT DIM. FOR NOMINAL SIZE RANGES IN DEGREE/ MINUTE (SHORTER ANGLE SIDE)	...10	>10...50	>50...100	>100	
TOLERANCES FOR NOMINAL SIZE RANGES	1°	30'	20'	10'	

SURFACE FINISH ACC. TO SNF 00.051 — WORM FOR SURFACE FINISH

SURFACE TEXTURE ACC. TO DIN EN ISO 1302 — EDGES ACC. TO ISO 13715

GEOMETRICAL PRODUCT SPECIFICATIONS (GPS) SIZE ISO 14405 (E) — GEOM. TOLERANCING ACC. TO DIN EN ISO 1101

STOCK MATERIAL

CUSTOMER REFERENCE NO. ASTE 1428

MATERIAL SPECIFICATION ACC. TO SNF 10.XXX — WORM FOR MATERIAL SPECIFICATION

MATERIAL NO.	OLD SPAIN MATERIAL NO.	REFERENCE NO.
405-794-99-99		4E 4234 B 000

ALL DIMENSIONS IN mm

SCALE 1:1

RELEASE-LEVEL RELEASED

TITLE: MOTOR GMPG
GEAR-MOTOR GMPG

ARTICLE NO. 0225

DT	DOCUMENT NO.	VERSION	SHEET	OF	FORMAT
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RELEASED	30.11.2015	SOMMERWALTERU

NIDEC MOTORS & ACTUATORS GERMANY / POLAND / SPAIN

DUB. FOR

COMPUTER DRAWING PLOTTED AT

ITEM	MATERIAL NUMBER	QUANT.	TITLE	DOCUMENT NO.

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