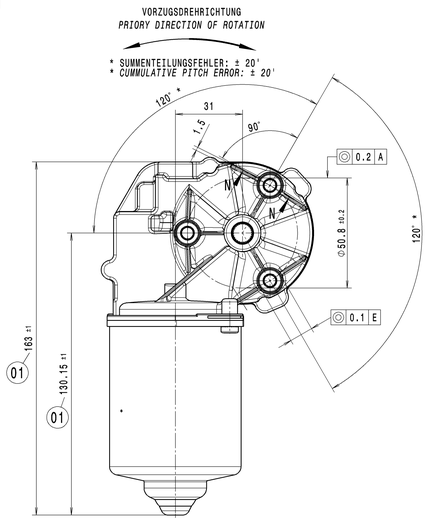
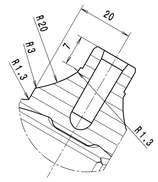
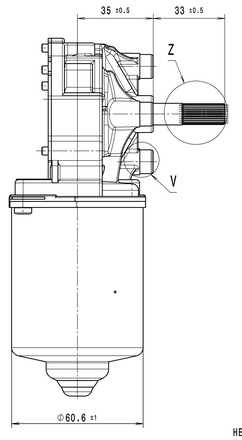
SAMPLING AND RELEASE ACCORDING TO EN 84 02 AND NMA SUPPLIER MANUAL

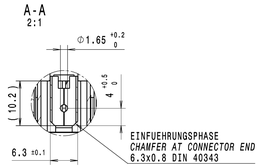
SPECIAL CHARACTERISTIC	QUANTITY
▽S/R	0
◆	0
◇E	0

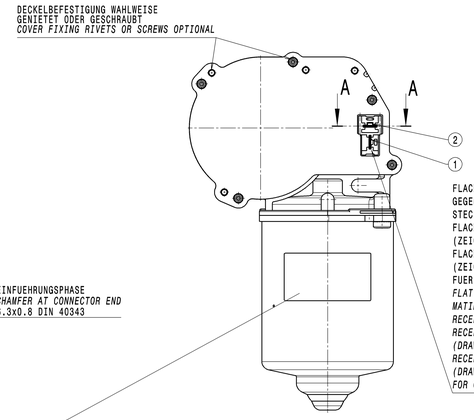
REV. NO.	ZONE	REVISION		DATE	NAME
000050000256		KERBVERZAHNUNGSAENDERUNG	SERRATION CHANGED	2009-12-02	EBERHARDTS I
01 000050000477		DICHTUNG ENTFERNT	SEALING DELETED	2011-04-07	EBERHARDTS I



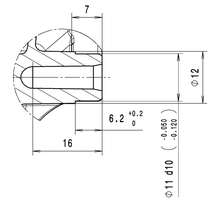




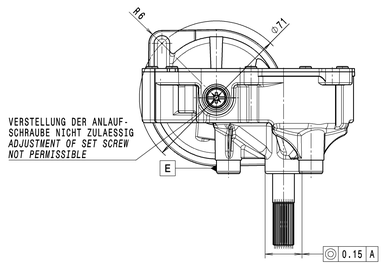


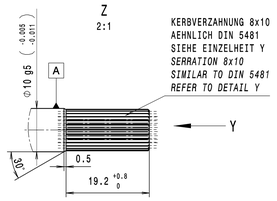


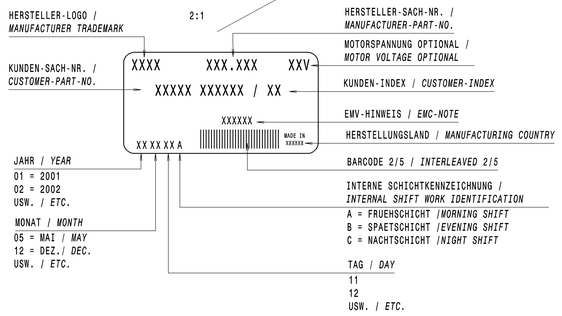
FLACHSTECKER (DIN 46244) 6,3x0,8
GEGENSTECKER/TYCOELECTRONICS-AMP
STECKERGEHAEUSE:SACHNUMMER 180907 (ZEICHNUNGSNUMMER C-180907)
FLACHSTECKHUELSE (DIN 46247) SACHNUMMER x-160526-x
(ZEICHNUNGSNUMMER C-160526)
FLACHSTECKHUELSE (DIN 46247):SACHNUMMER 925603-x
(ZEICHNUNGSNUMMER 925603)-(REDUZIERTE STECKKRAFT)
FUER LEITUNGSQUERSCHNITT 0,5-1,5mm²
FLAT PLUG (DIN 46244) 6,3x0,8
MATING CONNECTOR/TYCOELECTRONICS-AMP
RECEPTACLE HOUSING:PART NO 180907 (DRAWING NO C-180907)
RECEPTACLE FOR TABS (DIN 46247):PART NOx-160526-x
(DRAWING NO C-160526)
RECEPTACLE FOR TABS:(DIN 46247):PART NO 925603-x
(DRAWING NO 925603)-(REDUCED INSERTION FORCE);
FOR CONDUCTOR CROSS SECTION 0,5-1,5mm²



BEFESTIGUNGSLOECHER FUER SELBSTFORMENDE SCHRAUBEN M6,
POWER LOK GEWINDE DIN ISO 965-2, MAX. ZULAESSIGES
ANZUGSMOMENT DER BEFESTIGUNGSSCHRAUBE 13Nm
FASTENING HOLES FOR SELFFORMING SCREWS M6,
POWER LOK THREAT DIN ISO 965-2, MAX. PERMISSIBLE
TORQUE FOR FASTENING SCREW 13 Nm







A) ALLGEMEINES

1. PRUEFSPANNUNG		U_P = 12 V
2. LEERLAUFDREHZAHL		n_0 = 40.5 - 49.5 min-1
3. LEERLAUFSTROM	MAX.	I_0 = 3A
4. BLOCKIERSTROM		$I_K \leq$ 32A
5. BLOCKIERMOMENT		M_K = SIEHE DIAGRAMM
6. ENTSTOERBAUTEILE		= SIEHE DIAGRAMM
7. ISOLATIONSPRUEFUNG		= 500 VAC OHNE ENTSTOERBAUTEILE
8. GETRIEBEHEMMUMG STATISCH		= NA
9. RADIALBELASTUNG DER ABTRIEBSWELLE		= 80N
10. AXIALBELASTUNG DER ABTRIEBSWELLE		= NA
11. GERAEUSCHPEGEL		= NACH INTERNER SPEC.
12. UMGEBUNGSTEMPERATUR		= -20°C BIS +60°C
13. SCHUTZART		IP = 30
14. VIBRATION		= NA

A) *GENERAL*

1. TEST VOLTAGE		U_P = 12V
2. NO LOAD SPEED		n_0 = 40.5 - 49.5 min-1
3. NO LOAD CURRENT	*MAX.*	I_0 = 3A
4. BLOCKING CURRENT		$I_K \leq$ 32A
5. BLOCKING INSTANT		M_K = SEE DIAGRAM
6. RFI SUPPRESSION		= SEE DIAGRAM
7. ISOLATION TEST		= 500VAC WITHOUT SHIELD PARTS
8. SELF LOCKING STATIC		= NA
9. RADIAL LOAD ON DRIVE SHAFT		= 80N
10. AXIAL LOAD ON DRIVE SHAFT		= NA
11. NOISE LEVEL		= ACCORDING INTERNAL SPEC.
12. TEMPERATURE		= -20°C TO +60°C
13. PROTECTION		IP = 30
14. VIBRATION		= NA

B) BETRIEBSDATEN

NENNMOMENT (MAX. LAST)	MN	= 6Nm ANSTEIGEND BIS KURZZEITIG 9Nm
NENNSTROM (MAX. LAST)		= 6A ANSTEIGEND BIS 8.5A
STROMBEGRENZUNG		= NA
EINBAULAGE		= HORIZONTAL, GETRIEBE UNTEN, WELLE HORIZONTAL

B) *RUNNING DATA*

LOAD (MAX. LOAD)	*MN*	= *6Nm INCREASING TILL TEMPORARY 9Nm*
MAX. LOAD (MAX. LOAD)		= *6A INCREASING TILL 8.5A*
CURRENT DEFINITION		= *NA*
MOUNTING POSITION		= *HORIZONTAL, GEARING BELOW, SHAFT HORIZONTAL*

C) LEBENSDAUERPRUEFUNG

MIT ORIGINALANTRIEBSEINHEIT 21:120

1. ZYKLUS (DEFINITION)	= AB (CCW) 15 SEC.- PAUSE 20 SEC. LAST 1Nm (CA. 2.5A) AUF (CW) 30 SEC.- PAUSE 40 SEC. LAST 8Nm (CA. 7.5A)
2. PRUEFSPANNUNG	= 12V DC
3. RADIALBELASTUNG	= MIT ORIG.UNTERSETZUNG 21:120
4. ANKERKURZSCHLUSS	= NA
5. PRUEFTEMPERATUR	= RT
6. FREMDKUEHLUNG	= ZUR VERKUERZUNG DER PAUSEN ZULAESSIG MAX. MOTORTEMPERATUR <50°C
7. LEBENSDAUER	≥ 15.000 ZYKLEN
8. BLOCKLAUF	= NA
9. BLOCKLAUFGESCHWINDIGKEIT	= NA
10. LEISTUNG NACH LEBENSDAUERTEST	= ABWEICHUNG BIS 10% ZULAESSIG

C) *LIVE TEST*

WITH ORIGINAL DRIVE TRAIN 21:120

1. CYCLE (DEFINITION)	= *DOWN (CCW) 15 SEC.- BREAK 20 SEC. LOAD 1Nm (CA. 2.5A) UP (CW) 30 SEC.- BREAK 40 SEC. LOAD 8Nm (CA. 7.5A)*
2. TEST VOLTAGE	= *12V DC*
3. RADIAL LOAD	= *WITH ORIGINAL REDUCTION 21:120*
4. ARMATURE SHORT CIRCUIT	= *NA*
5. TEST TEMPERATURE	= *RT*
6. FOREIGN COOLING	= *TO REDUCTION THE BRAEK ALLOWED MAX. MOTOR TEMPERATURE <50°C*
7. LIFE TIME	≥ *15.000 CYCLE*
8. BLOCKING TEST	= *NA*
9. BLOCKING TEST SPEED	= *NA*
10. PERFORMANCE AFTER LIVE TEST	= *DEVIATIONS LIMIT 10% ALLOWED*

D) MITGELTENDE UNTERLAGEN

1. ALLG. SPEZIFIKATION INDUSTRIEMOTOREN NIDEC
   NACH SWF 46.402 (AUSGABE VOM 09.04.1998)
   DARUEBERHINAUS GEHENDE ANFORDERUNGEN
   HAT DER KUNDE DURCH PRUEFUNGEN IM SYSTEM SICHERZUSTELLEN.
   HIERFUER UEBERNIMMT NIDEC KEINE HAFTUNG.

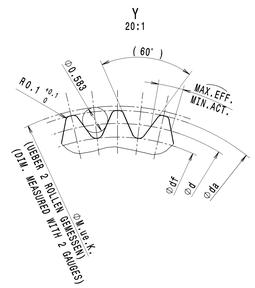
** 100% PRUEFUNG
** *100% CHECKING*

KONTROLLPLAN
CONTROL PLAN

D) *GENERAL DATAS*

1. GEN. SPECIFICATION INDUSTRIAL MOTORS NIDEC
ACC. SWF 46.402 (EDITION AT 09.04.1998)
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.

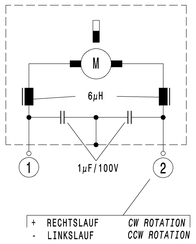
NA | NICHT ANGEWENDET
NOT APPLICABLE



KERBVERZAHNUNGSDATEN
SERRATION DATA

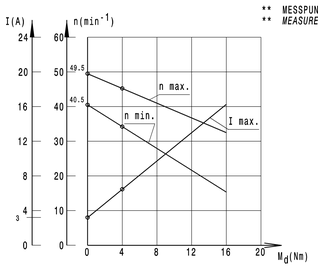
ZAEHNEZAHL = 28
NO. OF TEETH
LUECKENWINKEL = (60°)
SPACE WIDTH ANGLE
TEILKREIS-⌀ d = 9.0
REFERENCE CIRCLE ⌀
GRUNDKREIS-⌀ =(8.03)
FORM CIRCLE ⌀
KOPFKREIS-⌀ da = 9.6 -0.2
TIP CIRCLE ⌀
FUSSKREIS-⌀ df = 8.26 +0.11/-0.09
ROOT DIAMETER
FUSSRADIUS THEOR. 0.08 IST 0.12 - 0.19
ROOT RADIUS
MAX. EFF. = 0.495
(MAX. ACT.) = 0.480
MIN. ACT. = 0.439
KUGEL-⌀ = 0.583
BALL ⌀
(M.ue.K. = MAX 9.816 / MIN 9.741)
VERZAHNUNG: LEHRENHALTIG NACH GUTLEHRRING FA. FRENCO 33906
UND SEKTORVERZAHNUNG AUSSCHUSSLEHRRING
FA. FRENCO 56169
TOOTH GEAR: TRUE TO GAUGE ACCORDING GO RING GAUGE COMPANY
FRENCO 33906 AND SECTION GEARING NO-GO RING GAUGE
COMPANY FRENCO 56169

SCHALTBILD
CIRCUIT DIAGRAM



MOTORKENNLINIE BEI Up = 12V
MOTOR CURVE AT Up = 12V

** MESSPUNKTE KENNLINIE
** *MEASURE POINTS GRAPH*



VERZAHNUNGSDATEN	*GEAR TOOTH DATA*			
UEBERSETZUNG	*RATIO*	i	=	1:69
GANGZAHL	*NO. OF STARTS*	z1	=	1
ZAEHNEZAHL	*NO. OF TEETH*	z2	=	69
NORMALMODUL	*NORMAL MODULE*	mn	=	0.8
ZAHNRADMATERIAL	*GEAR WHEEL MATERIAL*		=	DELRIN 100

MAX. GETRIEBEFESTIGKEIT STATISCH : 28Nm
MAX. GETRIEBEFESTIGKEIT DYNAMISCH: 17Nm
MAX. STATIC GEAR STRENGTH
MAX. DYNAMIC GEAR STRENGTH

NOM. DIM.		...6	>6...30	>30...120	>120...400	>400...1000
GEN. TOLERANCES	±	0.1	0.2	0.3	0.5	0.8
REF. SIDE			...10	>10...50	>50...100	>100
GEN. ANGLE TOLERANCE	±		1°	30'	20'	10'

SURFACE FINISH TO SWF 00.051
SURFACE TEXTURE TO DIN EN ISO 1302 | EDGES TO ISO 13715 | GEOM. DIM. & TOL. TO DIN EN ISO 1101
STOCK MATL.
CLIENT REF NO.
CLIENT MOD. NO. | CLIENT MOD. DATE
MATERIAL SPEC. NO
MATERIAL 405-049-99-99 | MATERIAL OLD | REF. NR.
ALL DIMENSIONS IN mm
SCALE 1:1
TITLE MOTOR DCK31
MOTOR DCK31
CAT. 0266
RELEASE-LEVEL Released
UA A | DOCUMENT NO. 10000008476 | VERSION 01 | SHEET 1 | OF 1 | FORMAT A0
DRAWN 22.07.2011 EBERHARDTS
CHECKED
RELEASED
NIDEC MOTORS & ACTUATORS (GERMANY)
SIEMENSSTR. 9 D-74321 BIETIGHEIM
SUB. FOR 4E 3109 X 000
SUB. BY

ITEM	MATERIALNUMBER	QUANT.	TITLE	DOCUMENT NO.

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