ABB BALDOR RELIANCE

# Customer information packet

## BSM90N-2250AF

BSM90N-2250AF T'STAT ENCODER

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10/6/2026 6:59:03 PM

## Specifications

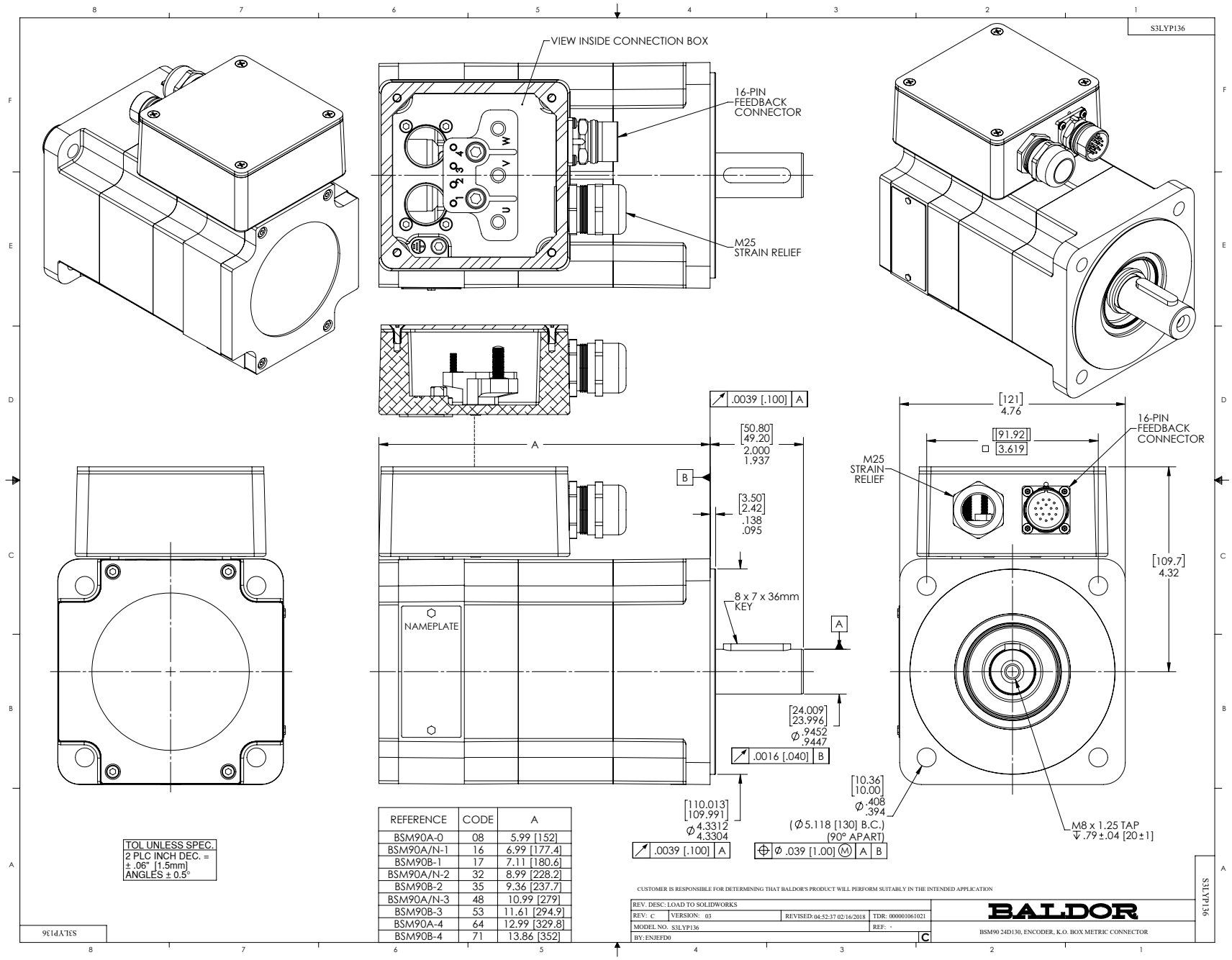
| | |
|---|---|
| **Enclosure** | TENV |
| **Nameplate Speed** | 1200 |
| **Agency Approvals** | CE |
| | CSA |
| | TUV |
| | UR |
| **Base Indicator** | Bracket Mounted |
| **Dimensional Drawing Numbers** | S3LYP136 |
| **Frame** | D130D |
| **Frame Material** | Exposed Laminations |
| **Motor Lead Quantity/Wire Size** | 3 @ 16 AWG |
| **Motor Standards** | IEC |
| **Mounting Arrangement** | F1 |
| **Nameplate Output** | 0.52KW |
| **Shaft Rotation** | Reversible |

## Part Detail

| | |
|---|---|
| **Revision** | AF |
| **Type** | AC |
| **Mech. spec.** | S3P136 |
| **Base** | |
| **Status** | PRD/A |
| **Elec. spec.** | S3WGW062 |
| **Layout** | S3LYP136 |
| **Eff. date** | 07-29-2025 |
| **CD Diagram** | CD0006A02 |
| **Poles** | 08 |
| **Leads** | 3#16 |
| **Proprietary** | False |
| **Created date** | 03-28-2007 |

**Nameplate**

| NP2863L | | | | | | |
|---|---|---|---|---|---|---|
| **CAT.NO.** | | | | | | |
| **SPEC.** | S3P136W062 | | | | | |
| **MFG.NO.** | | | | | | |
| **TORQ CONT STALL** | 10 NM | | | | | |
| **CUR CONT STALL/A RMS** | 4.19 | | | | | |
| **POWER** | 1.04KW | | | | | |
| **RATED SPEED/RPM(1/MIN)** | 1200 | | | | | |
| **RATED BUS VOLTS** | 320 | | | | | |
| **PEAK CUR/A RMS** | 16.8 | | | | | |
| **MAX SPEED/RPM(1/MIN)** | 4000 | | | | | |
| **IP** | 54 | **IC** | 410 | **WT.** | 14.5 | |
| **CLASS** | F | **25C RATED** | | | | |

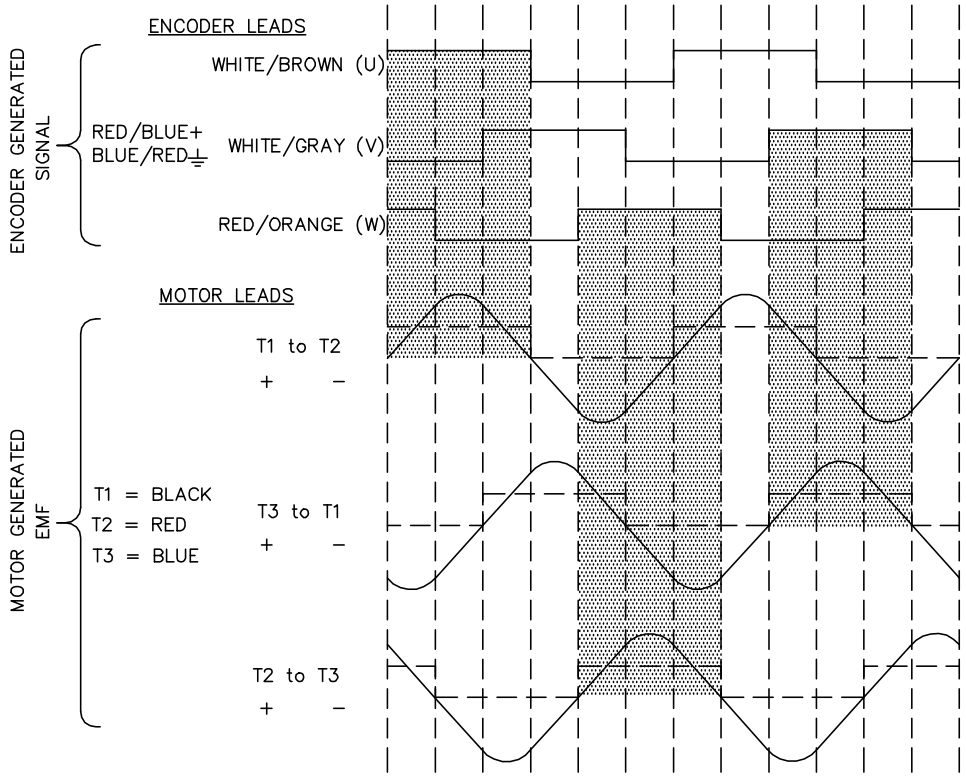


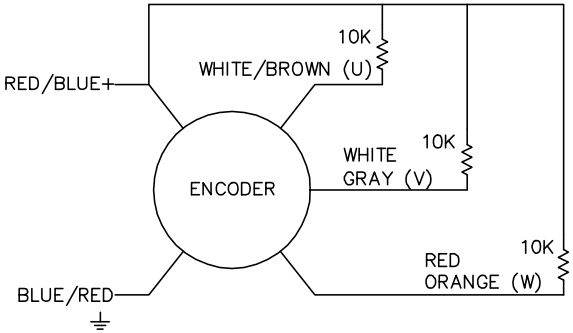

| REFERENCE | CODE | A |
|---|---|---|
| BSM90A-0 | 08 | 5.99 [152] |
| BSM90A/N-1 | 16 | 6.99 [177.4] |
| BSM90B-1 | 17 | 7.11 [180.6] |
| BSM90A/N-2 | 32 | 8.99 [228.2] |
| BSM90B-2 | 35 | 9.36 [237.7] |
| BSM90A/N-3 | 48 | 10.99 [279] |
| BSM90B-3 | 53 | 11.61 [294.9] |
| BSM90A-4 | 64 | 12.99 [329.8] |
| BSM90B-4 | 71 | 13.86 [352] |

CD1338A01

# BRUSHLESS D.C. COMMUTATION

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 POLE MECHANICAL DEGREES | 0 | 15 | 30 | 45 | 60 | 75 | 90 | 105 | 120 | 135 | 150 | 165 | 180 |
| 4 POLE MECHANICAL DEGREES | 0 | 30 | 60 | 90 | 120 | 150 | 180 | 210 | 240 | 270 | 300 | 330 | 360 |
| ELECTRICAL DEGREES | 0 | 60 | 120 | 180 | 240 | 300 | 360 | 420 | 480 | 540 | 600 | 660 | 720 |




NOTE:
CCW ROTATION VIEWING
MOTOR SHAFT END

| | | | |
|---|---|---|---|
| REV. DESC: NEW | | | BALDOR ELECTRIC Co. |
| REV. LTR: – | BY: FN | REVISED: 11:22:25 03/24/2004 | TDR: 328266 |
| CD1338A01 | | FILE: AAA00115153 | REF: CD1338A01 |
| | | MTL: – | BLDC COMMUTATION KOYO ENC.(CHANNELS TO MATCH TMGW/SUMTAK) |

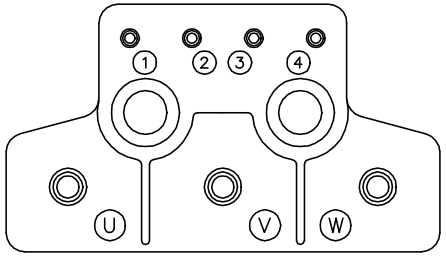
CD1338A01

CD1388A02

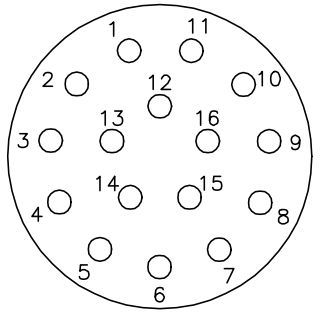
MOTOR CONNECTIONS

| TERMINAL LABEL | FUNCTION | INTERNAL WIRE MARKING |
|---|---|---|
| 1 | THERMAL SWITCH | YELLOW |
| 2 | THERMAL SWITCH | YELLOW |
| 3 | ✳BRAKE | BLACK |
| 4 | ✳BRAKE | BLACK |
| ⏚ | GROUND | ----- |
| U | PHASE U | BLACK OR T1 |
| V | PHASE V | RED OR T2 |
| W | PHASE W | BLUE OR T3 |

✳ WHEN REQUIRED




| PIN | FUNCTION | WIRE COLOR |
|---|---|---|
| 1 | DC+5V | RED/BLUE |
| 2 | GROUND | BLUE/RED |
| 3 | CHANNEL A | BLUE |
| 4 | CHANNEL $\overline{A}$ | ORANGE |
| 5 | CHANNEL B | GREEN |
| 6 | CHANNEL $\overline{B}$ | BROWN |
| 7 | CHANNEL Z | BLACK |
| 8 | CHANNEL $\overline{Z}$ | YELLOW |
| 9 | OPEN | --- |
| 10 | CHANNEL U | WHITE/BROWN |
| 11 | CHANNEL $\overline{U}$ | BROWN/WHITE |
| 12 | CHANNEL V | WHITE/GRAY |
| 13 | CHANNEL $\overline{V}$ | GRAY/WHITE |
| 14 | CHANNEL W | RED/ORANGE |
| 15 | CHANNEL $\overline{W}$ | ORANGE/RED |
| 16 | OPEN | --- |




16 PIN CONNECTOR
THREADED CRIMP PIN STYLE
16– #20 CONTACT SIZE
(CRIMP SIDE)

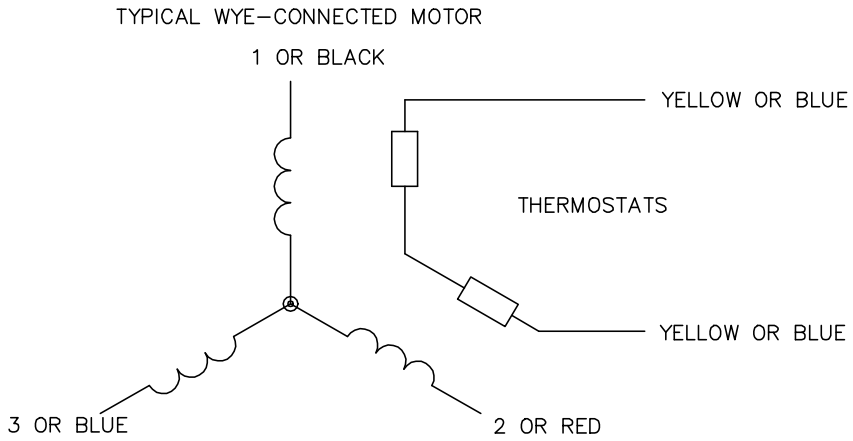
| | | | |
|---|---|---|---|
| REV. DESC: NEW | | | |
| REV. LTR: – | BY: FN | REVISED: 10:20:15 03/25/2004 | TDR: 328341 |
| CD1388A02 | | FILE: AAA00115200 | REF: CD1388A02 |
| | | MTL: – | |

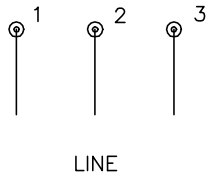
BALDOR ELECTRIC Co.

CONN DIAG KOYO ENCODER C/T, K.O. BOX & 16 PIN CONNECTOR

CD1388A02

CD0006A02




NOTES:

1. INTERCHANGE ANY TWO LINE LEADS TO REVERSE ROTATION.
2. ACTUAL NUMBER OF INTERNAL PARALLEL CIRCUITS MAY VARY.

| | | | |
|---|---|---|---|
| REV. DESC: REMOVED "OPTIONAL" FROM PRINT, SERVO REQ'S T'STATS | | | BALDOR ELECTRIC Co. |
| REV. LTR: D | VERSION: 03 | TDR: 000000414937 | |
| CD0006A02 | FILE: \AAA\00068\606 | REVISED: 10:02:28 11/21/2006 | 3PH, SV, 3 LEADS, WYE CONNECTED |
| | MTL: – | BY: ENJEFDO | |

CD0006A02