Drive and Motor First Commissioning Checklist

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Article address: https://drgmotor.com/en/blog/electric-motors/drive-motor-commissioning-checklist

Technical assumptions

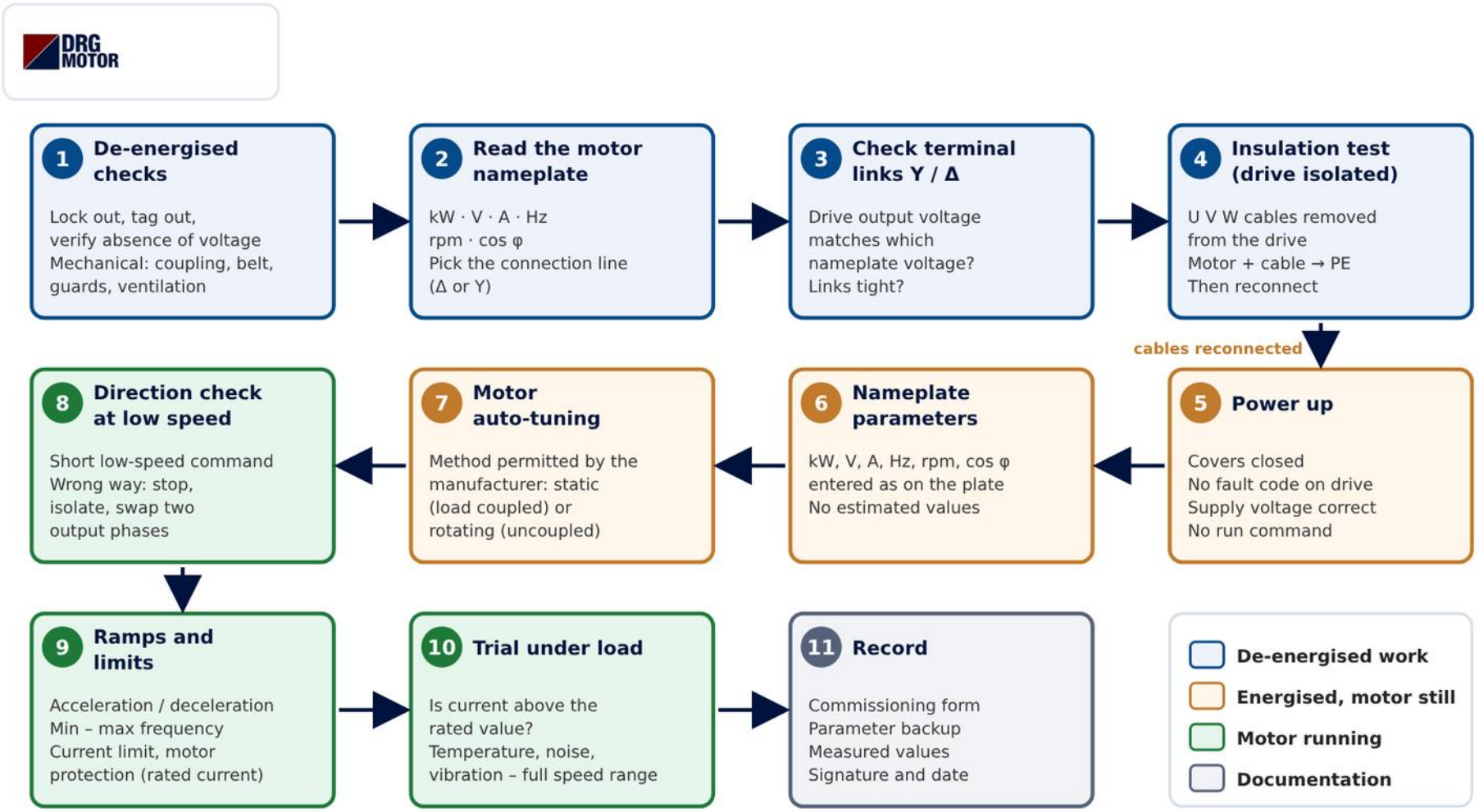
- Example: 400 V 50 Hz three-phase supply, drive with three-phase input, three-phase induction motor.
- Terminal names (L1 L2 L3, U V W, PE, DI1, DI2, COM, AI1, +10 V, 0 V) are generic and vary by device; the device's own wiring diagram prevails.
- Parameter values come from the motor nameplate; ramps, frequency limits and current limit are set to the load and the device documentation. No setting values are given here.
- The auto-tuning method (static / rotating) is the one the device manufacturer permits.
- No insulation test on the drive terminals: the motor cables are removed from the drive and motor + cable are tested. Test voltage and acceptance value follow the motor manufacturer's documentation.

Safety notice

- This content is for technical information only. Wiring, measurement and commissioning must be carried out by qualified electrical personnel, following lock-out and verification of de-energised state, and in line with the motor and device manufacturer's documentation.

Suitable DRG motors and store

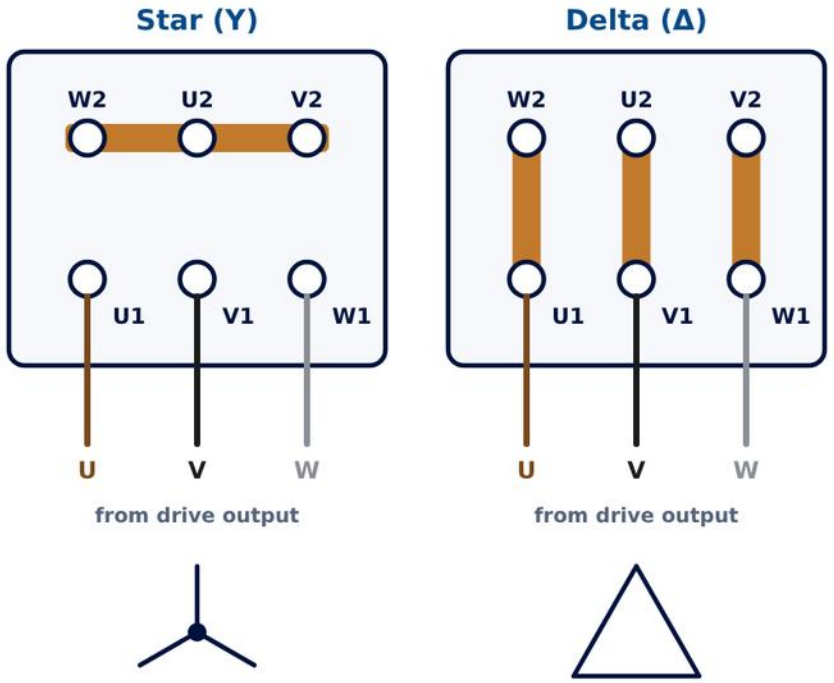
- DRG-802-4: https://drgmotor.com/en/buy-electric-motors-online/0-75-kw-1500-rpm-three-phase-motor-aluminium-drg-802-4
- DRG-100L2-4: https://drgmotor.com/en/buy-electric-motors-online/3-kw-1500-rpm-three-phase-motor-aluminium-drg-100l2-4
- DRG-112M-4: https://drgmotor.com/en/buy-electric-motors-online/4-kw-1500-rpm-three-phase-motor-aluminium-drg-112m-4
- DRG-132M-4: https://drgmotor.com/en/buy-electric-motors-online/7-5-kw-1500-rpm-three-phase-motor-aluminium-drg-132m-4
- DRG-160M-4: https://drgmotor.com/en/buy-electric-motors-online/11-kw-1500-rpm-three-phase-motor-aluminium-drg-160m-4
- https://drgmotor.com/en/buy-electric-motors-online



Drive and motor first commissioning flow chart

11 steps from de-energised checks to the record · parameter values come from the motor nameplate

Figure 1



Which connection? (example cases)

Nameplate	Drive output	Connection
230/400 V Δ/Y	3~ 400 V	Y
230/400 V Δ/Y	3~ 230 V	Δ
400/690 V Δ/Y	3~ 400 V	Δ

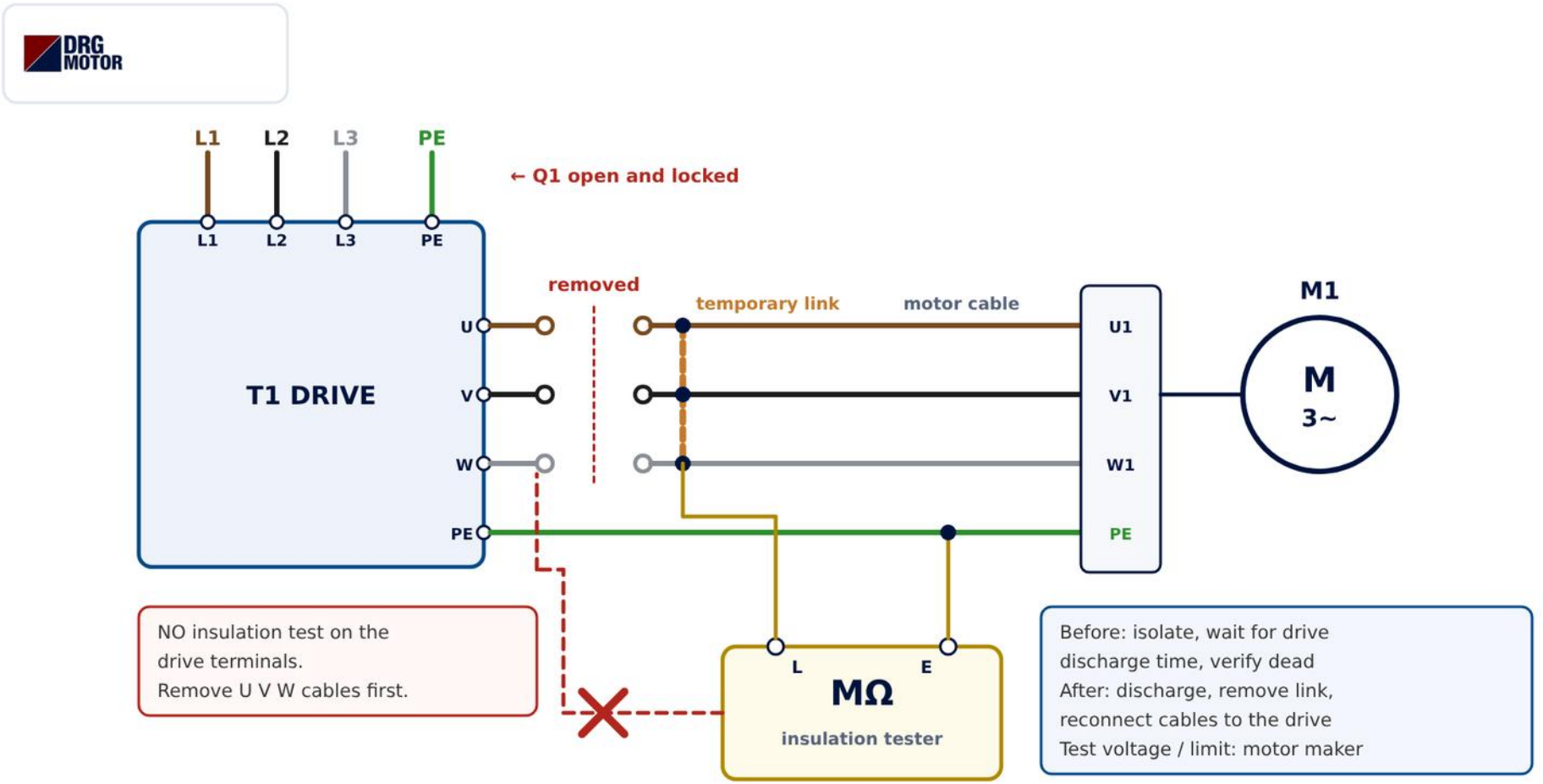
Verification
Rule: if the drive phase-to-phase output equals the Δ value on the plate use Δ, if it equals the Y value use Y.
Enter the voltage and current of this connection (same line of the plate).

Check number of links, tightness and PE connection.
Read the output voltage on the device label.
Terminal names vary by device.

Motor terminal box: verifying star / delta links

Top row W2 U2 V2 · bottom row U1 V1 W1 · choose by comparing drive output voltage with the plate

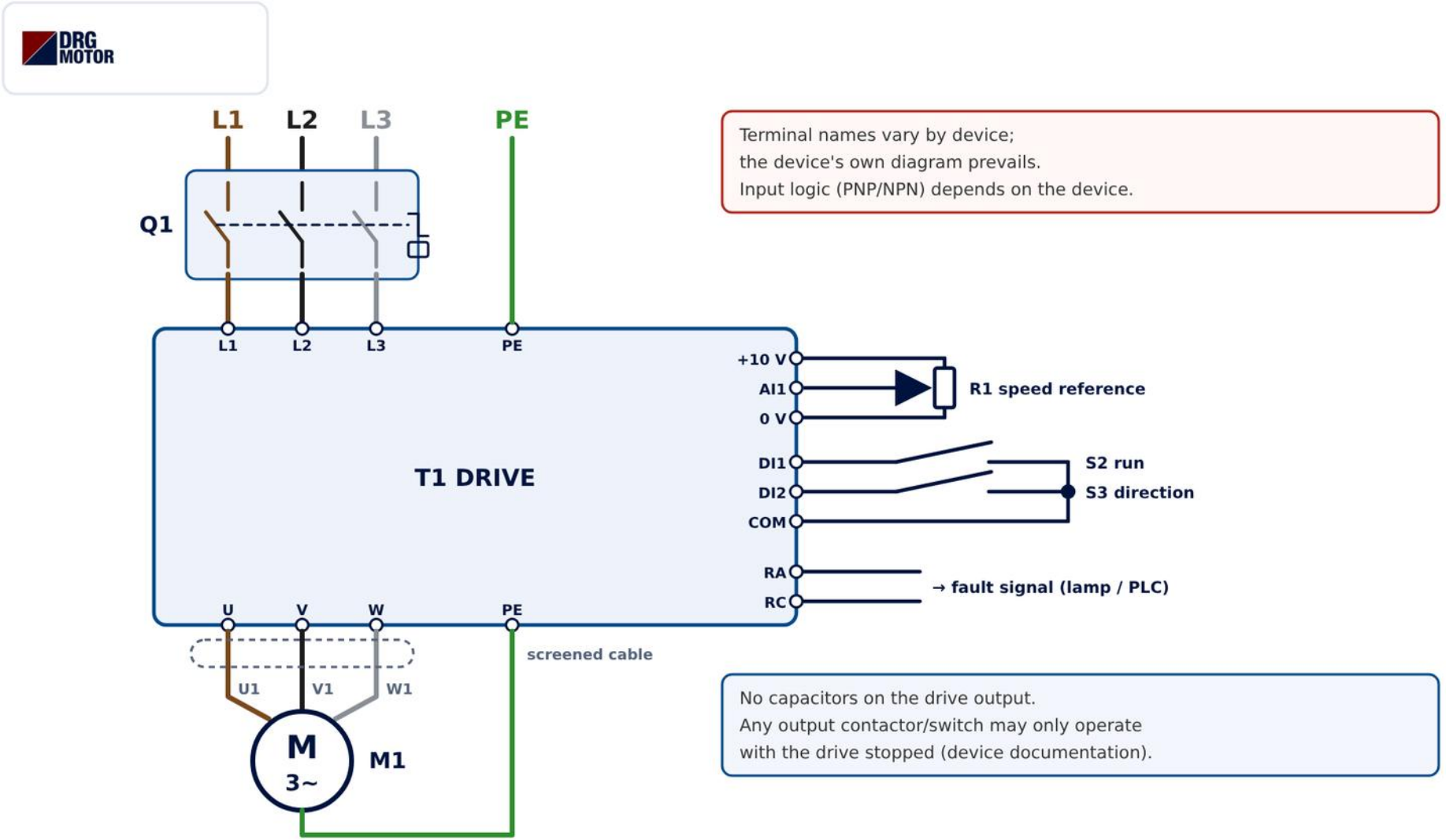
Figure 2



Insulation test with the drive output cables removed

Tester between motor + cable and PE · drive semiconductors are never exposed to the test voltage

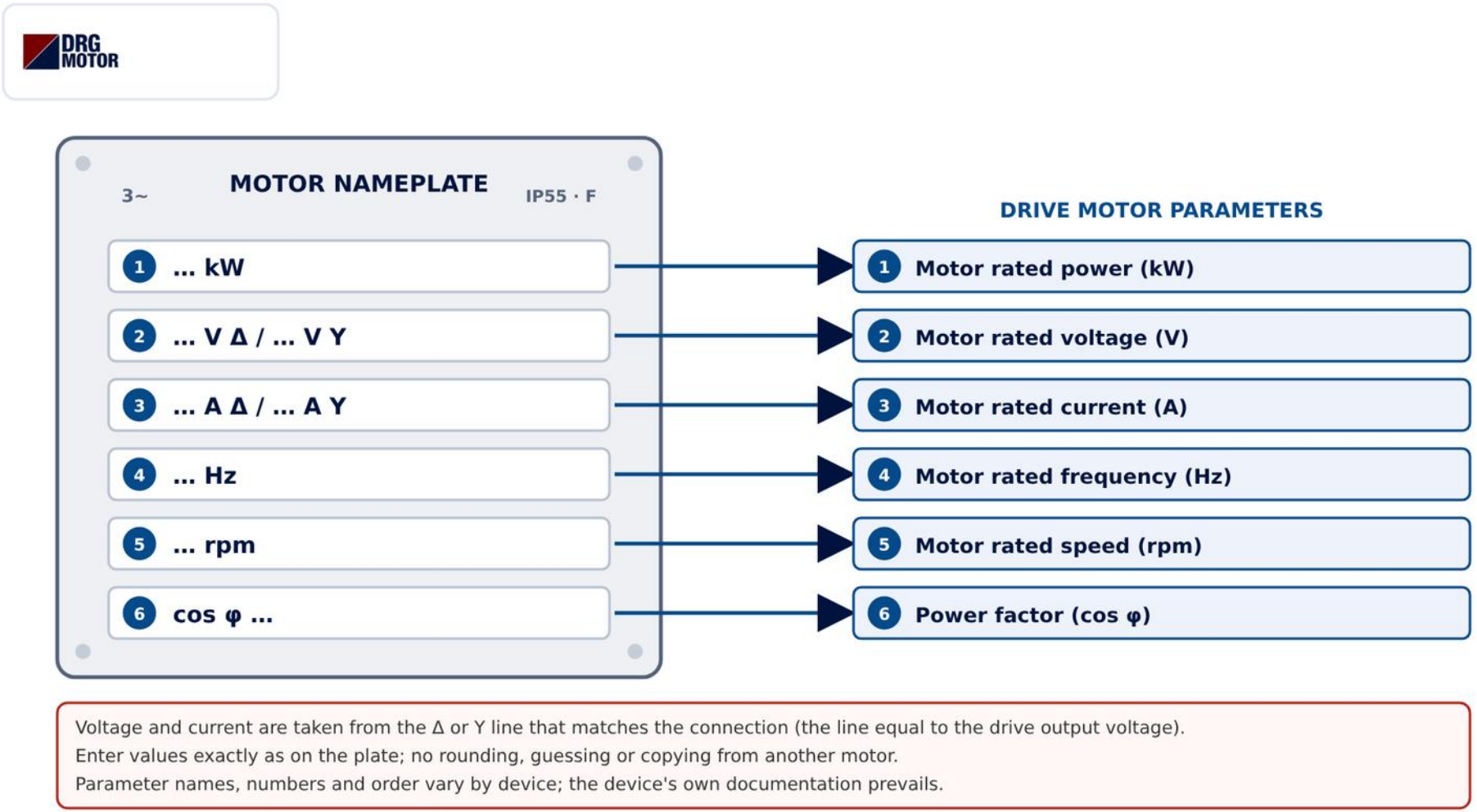
Figure 3



Drive power and control wiring (example)

L1 L2 L3 → Q1 → T1 → U V W → M1 3~ · PE · DI1 run, DI2 direction, AI1 speed reference, RA-RC fault relay

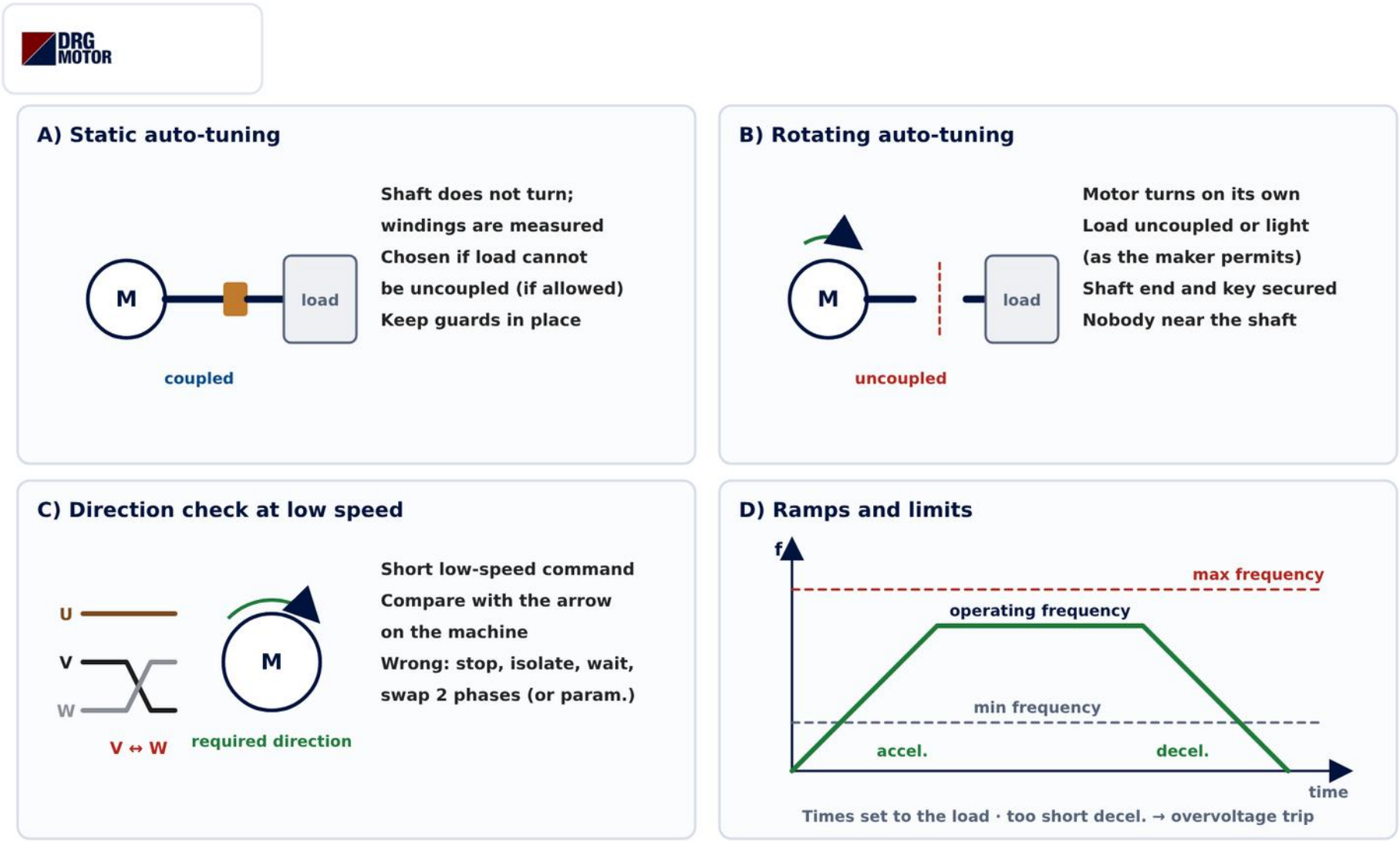
Figure 4



Motor nameplate ↔ drive parameter mapping

kW · V · A · Hz · rpm · cos φ: six values read from the plate and entered unchanged

Figure 5



Auto-tuning, direction check, ramps and limits

The tuning method is the one the device maker permits · no setting values are given here

Figure 6

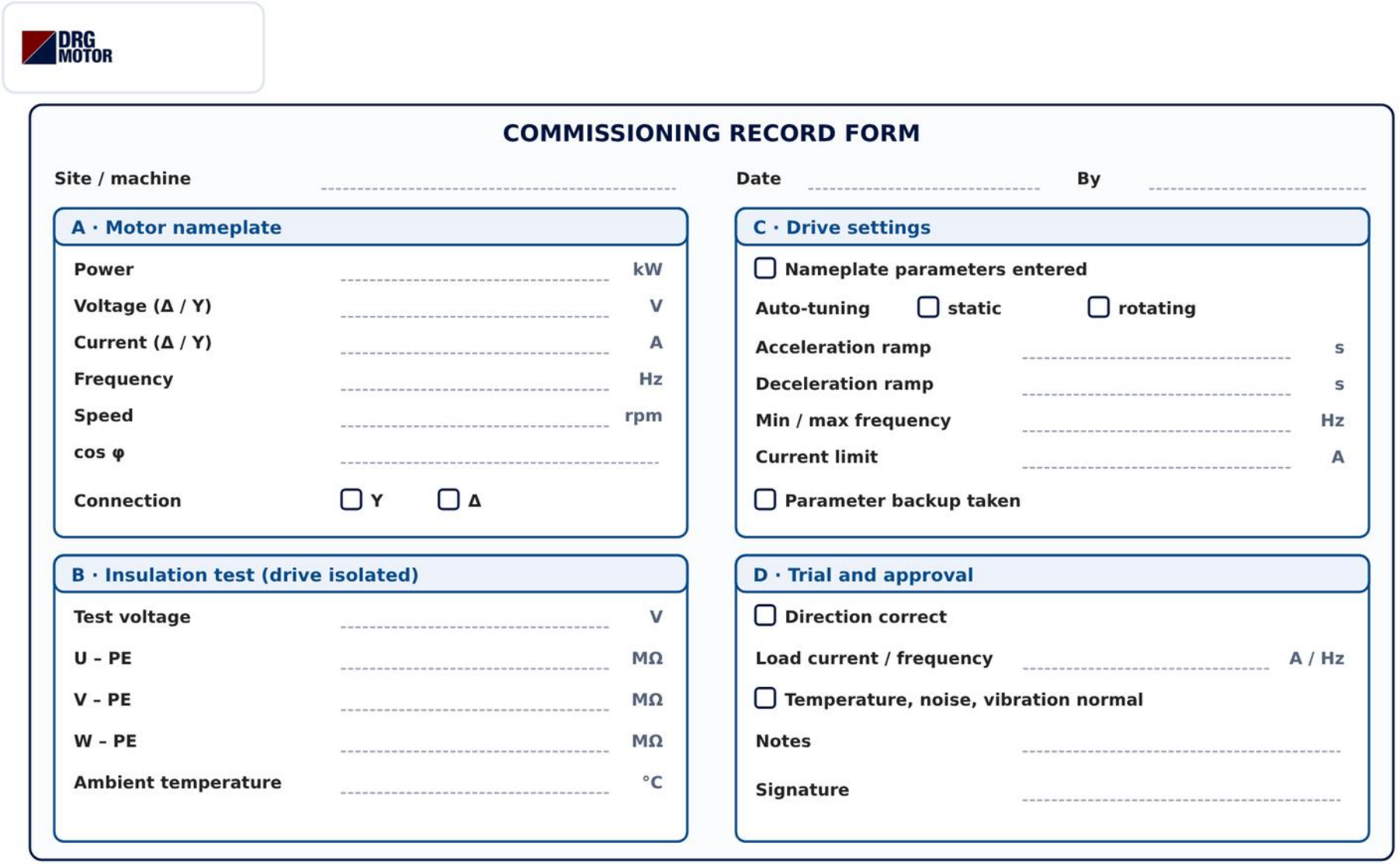
DRG MOTOR

Drive commissioning checklist

Step / check / done · do not move on until each line is ticked

Step	Check	Done
1	**De-energised checks** Lock-out/tag-out, absence of voltage verified; coupling, belt, guards, ventilation clear	☐
2	**Nameplate read** kW, V, A, Hz, rpm, cos φ and connection line (Δ / Y) written on the form	☐
3	**Terminal links** Y / Δ links match the drive output voltage; terminals tight; PE connected	☐
4	**Insulation test** Drive output cables removed; motor + cable → PE measured and recorded; cables reconnected	☐
5	**Powered up** Covers closed, supply voltage correct, no fault code, no run command	☐
6	**Nameplate parameters** Plate values entered unchanged; voltage and current belong to the chosen connection	☐
7	**Auto-tuning** Method permitted by the maker (static / rotating) completed without fault	☐
8	**Direction check** Short run at low speed; rotation matches the machine requirement	☐
9	**Ramps and limits** Acceleration / deceleration, min / max frequency, current limit and motor protection set	☐
10	**Trial under load** Current within rated value; temperature, noise, vibration normal; full speed range tried	☐
11	**Record** Parameter backup taken, commissioning form completed and signed	☐

Figure 7



COMMISSIONING RECORD FORM

Site / machine _____ Date _____ By _____

A · Motor nameplate

Power	_____	kW
Voltage (Δ / Y)	_____	V
Current (Δ / Y)	_____	A
Frequency	_____	Hz
Speed	_____	rpm
cos φ	_____	
Connection	☐ Y ☐ Δ	

B · Insulation test (drive isolated)

Test voltage	_____	V
U – PE	_____	MΩ
V – PE	_____	MΩ
W – PE	_____	MΩ
Ambient temperature	_____	°C

C · Drive settings

☐ Nameplate parameters entered

Auto-tuning ☐ static ☐ rotating

Acceleration ramp	_____	s
Deceleration ramp	_____	s
Min / max frequency	_____	Hz
Current limit	_____	A

☐ Parameter backup taken

D · Trial and approval

☐ Direction correct

Load current / frequency _____ A / Hz

☐ Temperature, noise, vibration normal

Notes _____

Signature _____

Commissioning record form (example)

Blank fields are filled on site · nameplate values and measurements written as found

Figure 8