

DM1/DM1 Pro plenum rated NEMA 1 kit (Original instructions)

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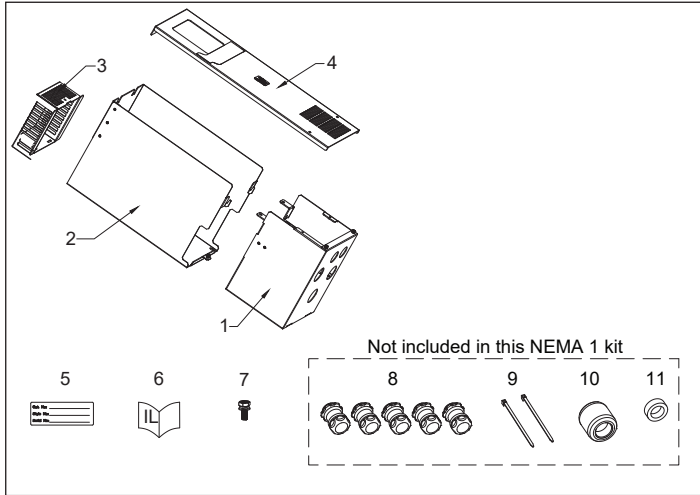
Instruction Leaflet	Montagehandleiding	Paigaldusjuhend	Монтажни инструкции
Montageanweisung	Montagevejledning	Szerelési utasítás	Instrucțiuni de montaj
Notice d'installation	Οδηγίες εγκατάστασης	Montāžas instrukcija	Upute za montažu
Instrucciones de montaje	Instruções de montagem	Montavimo instrukcija	Montaj talimati
Istruzioni per il montaggio	Monteringsanvisning	Instrukcja montażu	Інструкція з монтажу
安装说明	Asennusohje	Navodila za montažo	منشور التعليمات
Инструкция по монтажу	Návod k montáži	Návod na montáž	

 <p>(en) Electric current! Danger to life! Only skilled or instructed persons may carry out the following operations.</p>	<p>(pt) Perigo de vida devido a corrente eléctrica! Apenas electricistas e pessoas com formação electrotécnica podem executar os trabalhos que a seguir se descrevem.</p>	<p>(sl) Življenjska nevarnost zaradi električnega toka! Spodaj opisana dela smejo izvajati samo elektrostrokovnjaki in elektrotehnično poučene osebe.</p>
<p>(de) Lebensgefahr durch elektrischen Strom! Nur Elektrofachkräfte und elektrotechnisch unterwiesene Personen dürfen die im Folgenden beschriebenen Arbeiten ausführen.</p>	<p>(sv) Livsfara genom elektrisk ström! Endast utbildade elektriker och personer som undervisats i elektroteknik får utföra de arbeten som beskrivs nedan.</p>	<p>(sk) Nebezpečnostv ohrozenia života elektrickým prúdom! Práce, ktoré sú nižšie opísané, smú vykonávať iba elektroodborníci a osoby s elektrotechnickým vzdelaním.</p>
<p>(fr) Tension électrique dangereuse ! Seules les personnes qualifiées et averties doivent exécuter les travaux ci-après.</p>	<p>(fi) Hengenvaarallinen jännite! Vain pätevät sähköasentajat ja opastusta saaneet henkilöt saavat suorittaa seuraavat työt.</p>	<p>(bg) Опасност за живота от електрически ток! Операциите, описани в следващите раздели, могат да се извършват само от специалисти-електротехници и инструктиран електротехнически персонал.</p>
<p>(es) ¡Corriente eléctrica! ¡Peligro de muerte! El trabajo a continuación descrito debe ser realizado por personas cualificadas y advertidas.</p>	<p>(cs) Nebezpečí úrazu elektrickým proudem! Niže uvedené práce směji provádět pouze osoby s elektrotechnickým vzděláním.</p>	<p>(ro) Atenție! Pericol electric! Toate lucrările descrise trebuie efectuate numai de personal de specialitate calificat și de persoane cu cunoștințe profunde în electrotehnică.</p>
<p>(it) Tensione elettrica: Pericolo di morte! Solo persone abilitate e qualificate possono eseguire le operazioni di seguito riportate.</p>	<p>(et) Eluhtlik! Elektrilöögioht! Järgnevalt kirjeldatud töid tohib teostada ainult elektriala spetsialist või elektrotehnilise instrueerimise läbinud personal.</p>	<p>(hr) Opasnost po život uslijed električne struje! Radove opisane u nastavku smiju obavljati samo stručni električari i osobe koje su prošle elektrotehničku obuku.</p>
<p>(zh) 触电危险! 只允许专业人员和受过专业训练的人员进行下列工作。</p>	<p>(hu) Életveszély az elektromos áram révén! Csak elektromos szakemberek és elektrotechnikában képzett személyek végezhetik el a következőkben leírt munkákat.</p>	<p>(tr) Elektrik akımı! Hayati tehlike! Aşağıdaki işlemleri yalnızca kalifiye veya eğitimli kişiler gerçekleştirebilir.</p>
<p>(ru) Электрический ток! Опасно для жизни! Только специалисты или проинструктированные лица могут выполнять следующие операции.</p>	<p>(lv) Elektriskā strāva apdraud dzīvību! Tālāk aprakstītos darbus drīkst veikt tikai elektrospeciālisti un darbam ar elektrotehnikām iekārtām instruētās personas!</p>	<p>(uk) Электричний струм! Небезпечно для життя! Виконувати означені далі операції дозволяється тільки кваліфікованим особам, що пройшли інструктаж.</p>
<p>(nl) Levensgevaar door elektrische stroom! Uitsluitend deskundigen in elektriciteit en elektrotechnisch geïnstrueerde personen is het toegestaan, de navolgend beschreven werkzaamheden uit te voeren.</p>	<p>(lt) Pavojus gyvybei dėl elektros srovės! Tik elektrikai ir elektrotechnikos specialistai gali atlikti žemiau aprašytus darbus.</p>	<p>(ar) تحذير! تيار كهربائي! خطر موت! لا تتم أعمال الصيانة و التركيب إلا من قبل العاملين المدربين !</p>
<p>(da) Livsfare på grund af elektrisk strøm! Kun uddannede el-installatører og personer der er instruerede i elektrotekniske arbejdsopgaver, må udføre de nedenfor anførte arbejder.</p>	<p>(pl) Porażenie prądem elektrycznym stanowi zagrożenie dla życia! Opisane poniżej prace mogą przeprowadzać tylko wykwalifikowani elektrycy oraz osoby odpowiedzialnie poinstruowane w zakresie elektrotechniki.</p>	
<p>(el) Προσοχή, κίνδυνος ηλεκτροπληξίας! Οι εργασίες που αναφέρονται στη συνέχεια θα πρέπει να εκτελούνται μόνο από ηλεκτρολόγους και ηλεκροτεχνίτες.</p>		



Powering Business Worldwide

Component list for DM1/DM1 Pro plenum rated NEMA 1 kit



1. Conduit box
2. Drive housing
3. Fan cover
4. Front cover (with attached brand label & warning label)
5. Part number label
6. Instruction leaflet
7. Screws (refer to Table 1)

Other components needed for NEMA 1 kit installation.

8. Conduit fitting (prepared by customer)
9. Cable tie (2 pieces, shipped with drive for EMI version only)
10. Input magnetic core (shipped with drive for EMI version only)
11. Output magnetic core (shipped with drive for EMI version only)

Note: 1. The plenum rated NEMA 1 kits are only applicable for screw mounting, but not for DIN rail mounting.

Note: 2. The plenum rated NEMA 1 kits are only applicable for vertical mounting, but not for horizontal mounting or inclined mounting.

Table 1. Screw quantities.

	M3 x 8	M3 x 15	M4 x 10	M4 x 20
FR1	9	2		
FR2	8			2
FR3	6		2	2
FR4			8	2

- | | | | | | | |
|----------------------|-----------------------|------------------------|--------------------------|------------------------|----------------------|---------------------|
| (en) Mounting | (it) Montaggio | (da) Montering | (fi) Asennus | (lv) Montāža | (sk) Montáž | (tr) Montaj |
| (de) Montage | (zh) 安装 | (el) Τοποθέτηση | (cs) Montáž | (lt) Montavimas | (bg) Монтаж | (uk) Монтаж |
| (fr) Montage | (ru) Монтаж | (pt) Montagem | (et) Paigaldamine | (pl) Montaż | (ro) Montarea | (ar) التركيب |
| (es) Montaje | (nl) Montering | (sv) Montering | (hu) Felszerelés | (sl) Montaža | (hr) Montaža | |

Installation steps for DM1/DM1 Pro FR1 plenum rated NEMA 1 kit

Step 1

Record the catalog number, style number, and serial number on the part number label ① from the rating label attached on the right surface of the drive plastic housing, then attach the part number label to the NEMA 1 kit front cover ② (see Figure 1). DO NOT cover the venting holes on the front cover.

Remove the two screws ③ and disassemble the NEMA 1 kit front cover ② (see Figure 1).

Table 2. FR1 installation screw types by call-outs.

	③	⑤	⑥	⑦	⑳	㉑
FR1	M3 x 8	M3 x 8	M3 x 8	M3 x 8	M3 x 15	M3 x 8

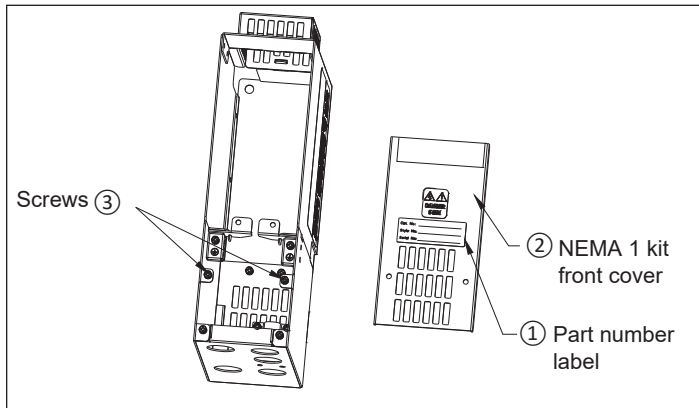


Figure 1. Completing the product information on the part number label.

Step 2

Remove the two screws ⑤ and disassemble the conduit box (see Figure 2).

Remove the two screws ⑥ and disassemble the NEMA 1 kit fan cover ⑩ (see Figure 2).

Remove the two screws ⑳ and disassemble the EMC grounding clamp ⑰ (Figure 2)

Remove the two screws ⑦ and disassemble the NEMA 1 kit left plate ⑧ and NEMA 1 kit right plate ⑨ (see Figure 2).

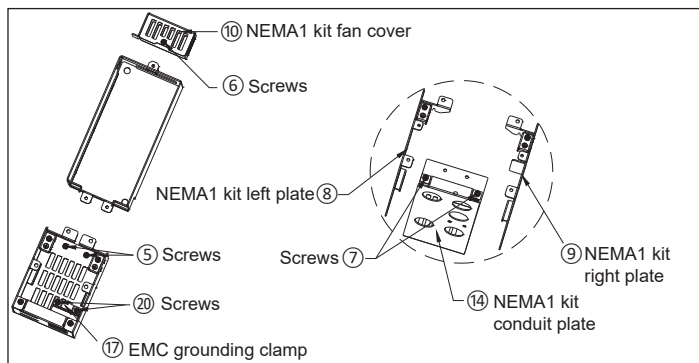


Figure 2. Removing the NEMA 1 front cover, conduit box, fan cover, and left & right plate.

Step 3

Remove the terminal cover ④ (see Figure 3).

Insert the drive into the metal NEMA 1 kit drive housing ⑪ (see Figure 4).

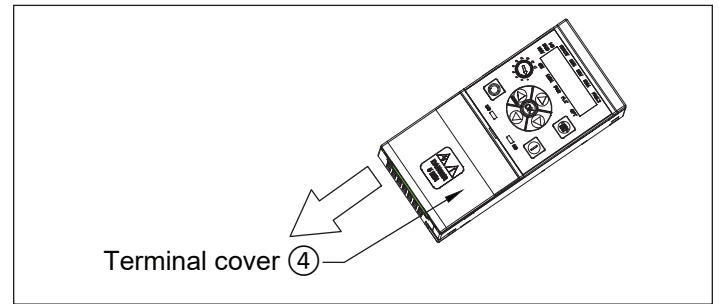


Figure 3. Removing the terminal cover.

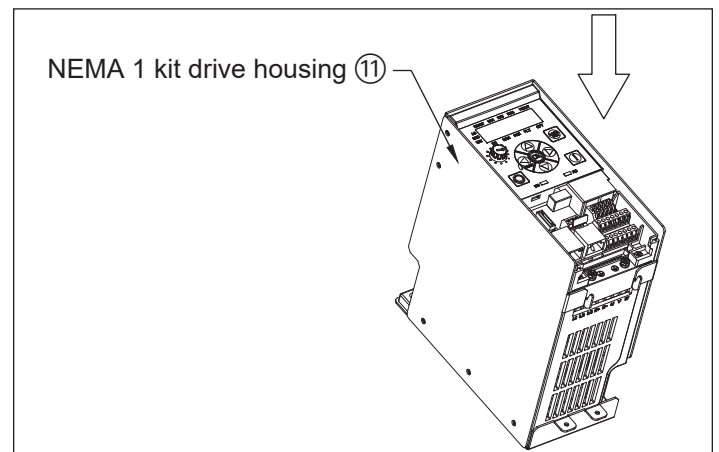


Figure 4. Inserting the drive into the metal NEMA 1 drive housing.

Step 4:

Mount the conduit fittings ⑫ ⑬ (prepared by customer) on NEMA 1 kit conduit plate ⑭, then mount the NEMA 1 kit conduit plate to the drive housing ⑪ with two screws ⑤ (see Figure 5).

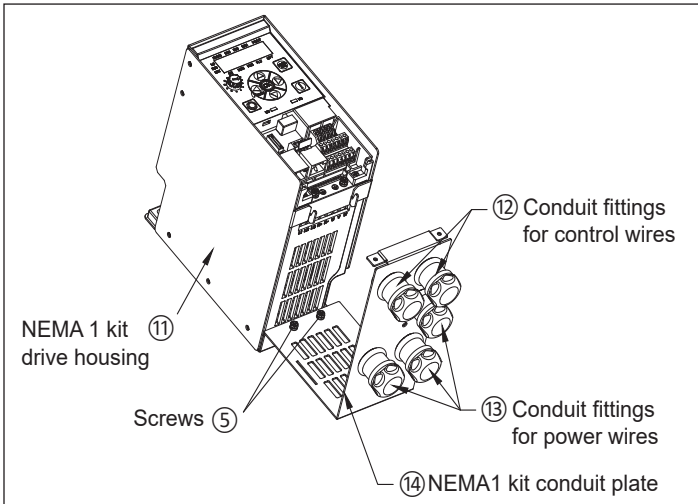


Figure 5. Mounting the NEMA 1 conduit plate.

Table 3. Conduit fitting information (FR1).

	⑫: Conduit fitting for control wires	⑬: Conduit fitting for power wires
FR1	0.50 inch, 2 pieces	0.50 inch, 3 pieces

Step 5:

Power wiring for EMI version drive:

- A. Run input cable (1P: 2 line wires + 1 input grounding wire; 3P: 3 line wires + 1 input grounding wire) through the power wires conduit fitting ⑬ and input magnetic core ⑮, then connect it to the input terminals (1P: L2/L3; 3P: L1/L2/L3). Leave the input grounding wire ⑯ unconnected. Tie the input magnetic core to the input wires with a cable tie (see Figure 6).

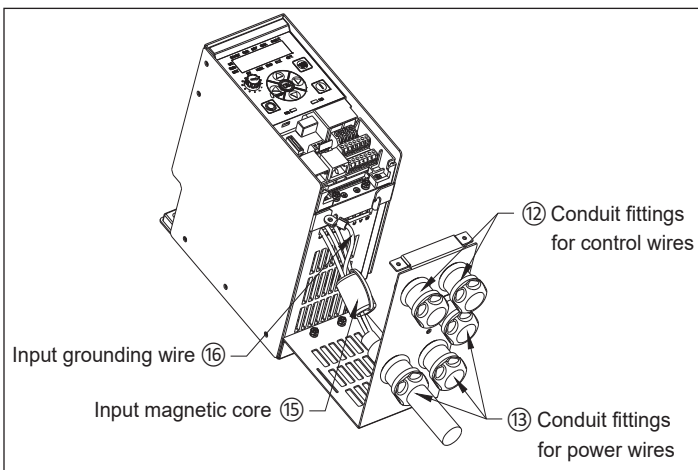


Figure 6. Routing the input grounding wire and input magnetic core.

- B. Run the output cable (3 motor wires + 1 output grounding wire) through the power wires conduit fitting ⑬ and EMC grounding clamp ⑰. Run the 3 motor wires without the output grounding wire through the output magnetic core ⑱. Connect the motor wires to U/V/W terminals. Leave the output grounding wire ⑱ unconnected. Tie the output magnetic core to the output wires with a cable tie. Use the EMC grounding clamp ⑰ and two screws ⑳ to fix output cable shielding layer (see Figure 7).

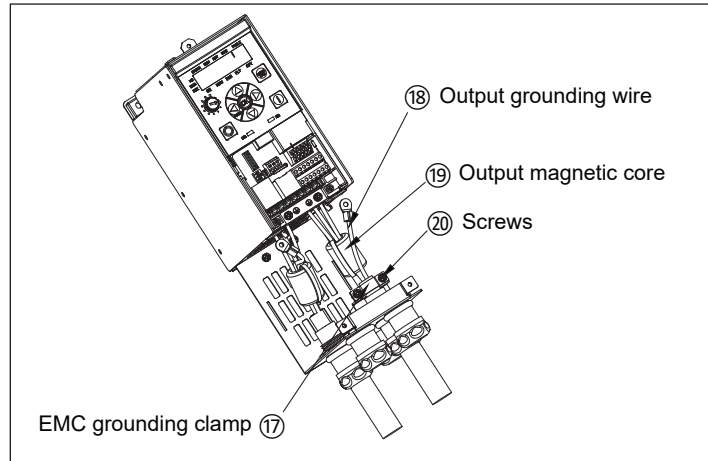


Figure 7. Routing the output cable and motor wires.

Power wiring for non-EMI version drive:

- A. Run the input cable (1P: 2 line wires + 1 input grounding wire; 3P: 3 line wires + 1 input grounding wire) through the power wires conduit fitting ⑬. Connect it to the input terminals (1P: L2/L3; 3P: L1/L2/L3). Leave the input grounding wire ⑯ unconnected.
- B. Run the output cable (3 motor wires + 1 output grounding wire) through the power wires conduit fitting ⑬ and EMC grounding clamp ⑰. Connect the motor wires to U/V/W terminals. Leave the output grounding wire ⑱ unconnected. Use the EMC grounding clamp ⑰ and two screws ⑳ to fix output cable shielding layer.

Control wiring:

- A. Run the control wires (RJ45, Ethernet, I/O, STO, Relay, etc.) through control wire conduit fittings ⑫ and connect them to corresponding terminals or connectors.

Step 6:

Mount the NEMA 1 kit left plate ⑧ and right plate ⑨ back to the NEMA 1 kit conduit plate ⑭ and drive with two screws ⑦ and two screws ⑰ then connect the input grounding wire ⑯ and output grounding wire ⑱ to the grounding holes on the NEMA 1 kit left plate ⑧ and core NEMA 1 kit right plate ⑨ (see Figure 8).

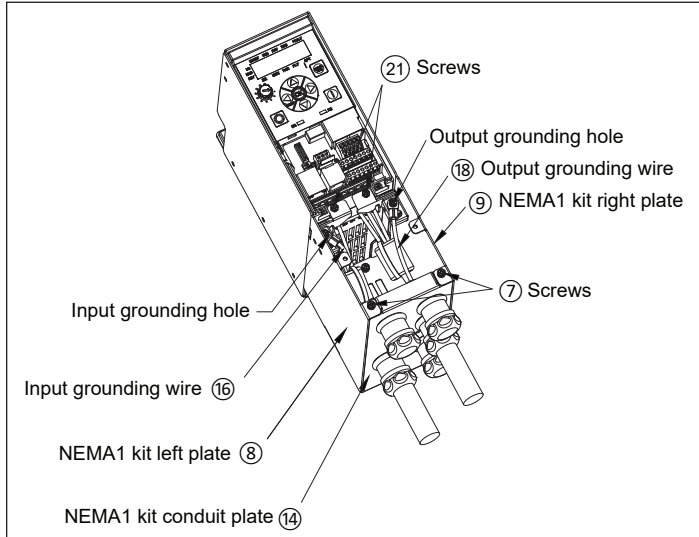


Figure 8. Reinstalling the left and right plates and connecting the input and output grounding wire.

Step 7:

Mount the terminal cover ④ back to the drive (see Figure 9).

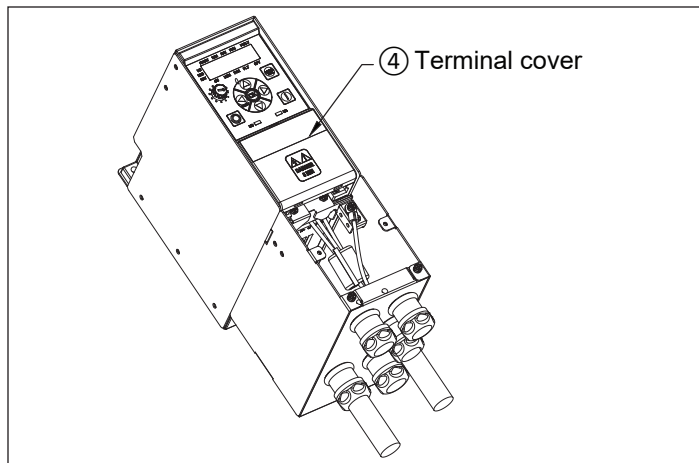


Figure 9. Reinstalling the terminal cover.

Mount the NEMA 1 kit front cover ② back to the conduit box with screws ③ (see Figure 10)

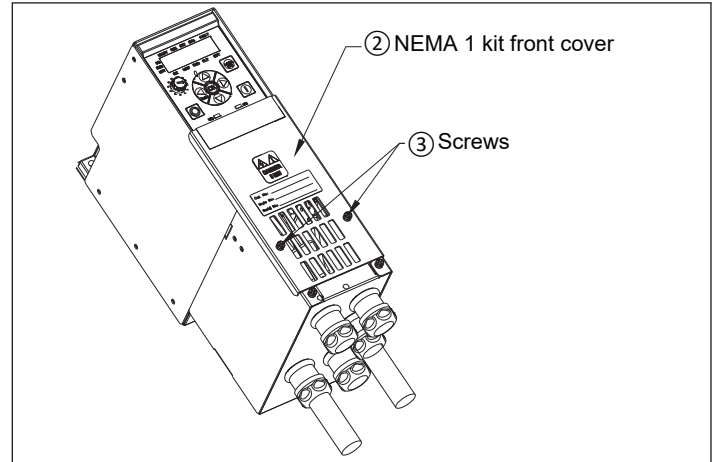


Figure 10. Reinstalling the front cover.

Step 8:

Mount the drive together with the NEMA 1 kit to the mounting plate with two M5 (or 3/16 inch) screws at the 2 corners (top left and bottom right) (see Figure 11).

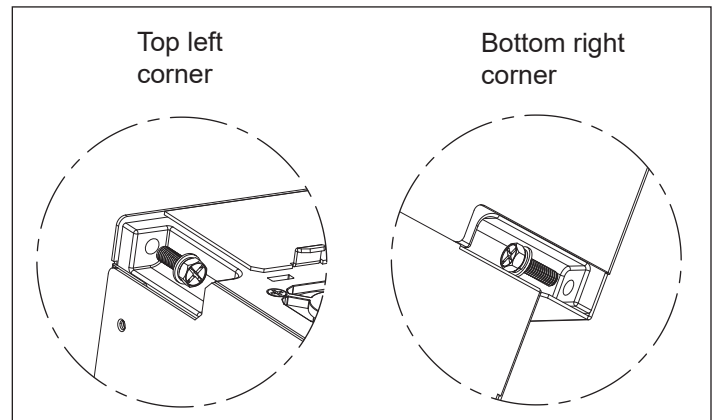


Figure 11. Mounting the drive and mounting plate.

Mount the NEMA 1 kit fan cover ⑩ back to the NEMA 1 kit drive housing ⑪ with screws ⑥ (see Figure 12).

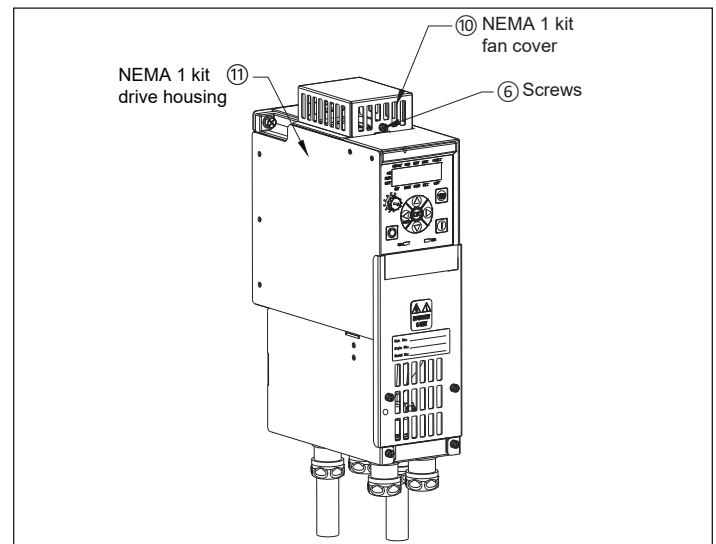


Figure 12. Mounting the fan cover.

Installation steps for DM1/DM1 Pro FR2-FR4 plenum rated NEMA 1 kits

Step 1

Record the catalog number, style number, and serial number on the part number label ① from the rating label stuck on the right surface of the drive plastic housing, then stick the part number label to the NEMA 1 kit front cover ②. DO NOT cover the venting holes on front cover.

Remove the two screws ③ and disassemble the NEMA 1 kit front cover ② (see Figure 13).

Table 4. FR2-4 installation screw types by call-outs.

	③	⑤	⑥	⑦	⑳	㉑
FR2	M3 x 8	M3 x 8	M3 x 8	M3 x 8	M4 x 20	M3 x 8
FR3	M3 x 8	M3 x 8	M3 x 8	M3 x 8	M4 x 20	M4 x 10
FR4	M4 x 10	M4 x 10	M4 x 10	M4 x 10	M4 x 20	M4 x 10

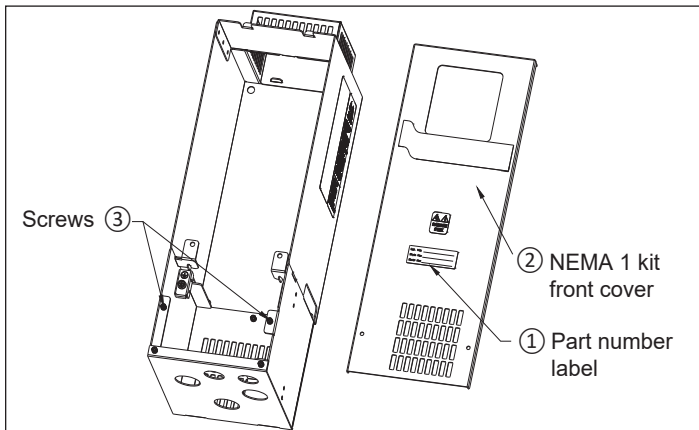


Figure 13. Completing the product information on the part number label.

Step 2

Remove the screw ⑤ and disassemble the conduit box (see Figure 14).

Remove the two screws ⑳ and disassemble the EMC grounding clamp ⑰ (see Figure 14).

Remove the two screws ⑥ and disassemble the NEMA 1 kit fan cover ⑩ (see Figure 14).

Remove the two screws ⑦ and disassemble the NEMA 1 kit conduit plate ㉒ (see Figure 14).

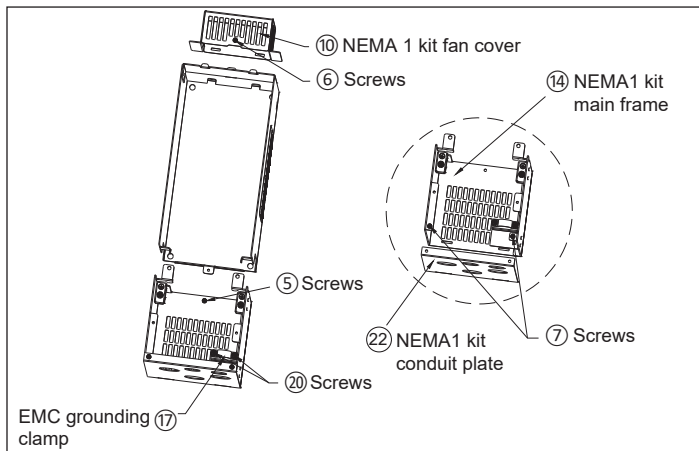


Figure 14. Removing the conduit box, fan cover, and conduit plate.

Step 3

Remove the terminal cover ④ (see Figure 15).

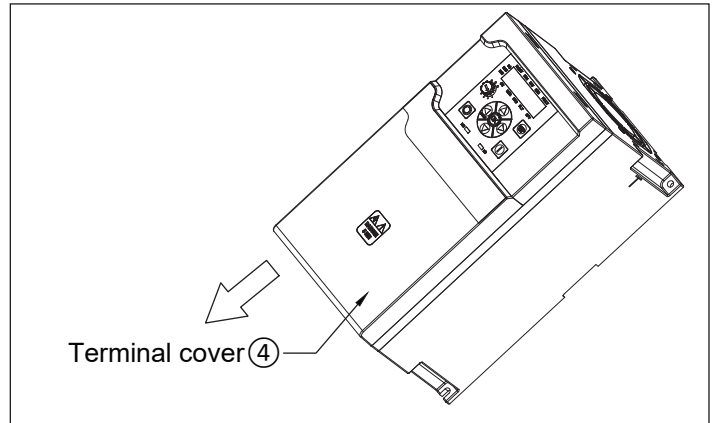


Figure 15. Removing the terminal cover.

Insert the drive into the metal NEMA 1 kit drive housing ⑪ (see Figure 16).

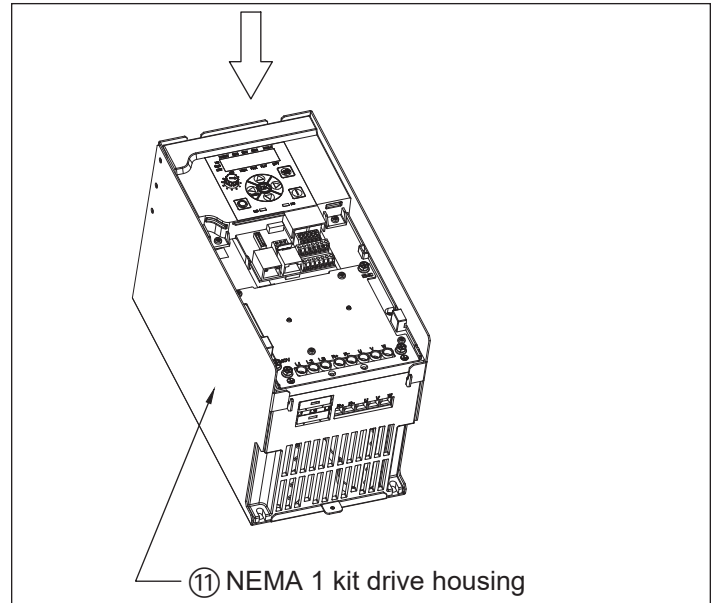


Figure 16. Inserting the drive into the NEMA 1 drive housing.

Step 4

Mount the NEMA 1 kit main frame (14) to the drive housing with screw (5) and two screws (21) (see Figure 17).

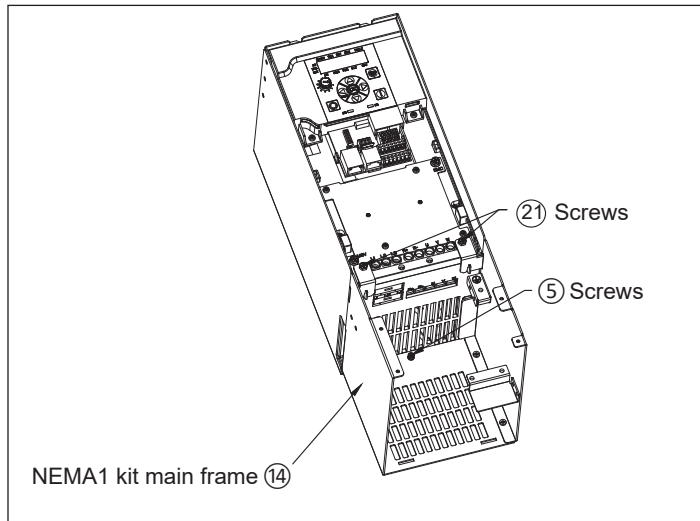


Figure 17. Mounting the main frame to the drive housing.

Mount the conduit fittings (12) (13) (prepared by customer) on NEMA 1 kit conduit plate (22) (see Figure 18).

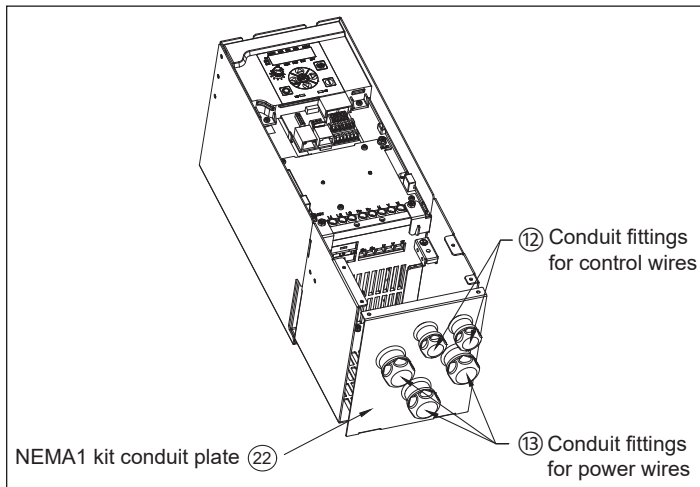


Figure 18. Mounting the conduit fittings.

Table 5. Conduit fitting information (FR2-4).

	⑫: Conduit fitting for control wires	⑬: Conduit fitting for power wires
FR2	0.50 inch, 2 pieces	0.75 inch, 3 pieces
FR3	0.50 inch, 2 pieces	0.75 inch, 3 pieces
FR4	0.50 inch, 2 pieces	1.00 inch, 3 pieces

Step 5

Power wiring for EMI version drive (refer to Table 6):

A. Run the input cable (1P: 2 line wires + 1 input grounding wire; 3P 230 V/480 V: 3 line wires + 1 input grounding wire; 3P 575 V: 3 line wires) through the power wires conduit fitting (13) and input magnetic core (15) (if provided). The input grounding wire (16) should not run through the input magnetic core (if provided) for 3P 575 V drives. Connect the input grounding wire (16) to the input grounding hole on the NEMA 1 main frame (14), then connect the line wires to the input terminals (1P: L2/L3; 3P: L1/L2/L3). Tie the input magnetic core (if provided) to the input wires with a cable tie (see Figure 19).

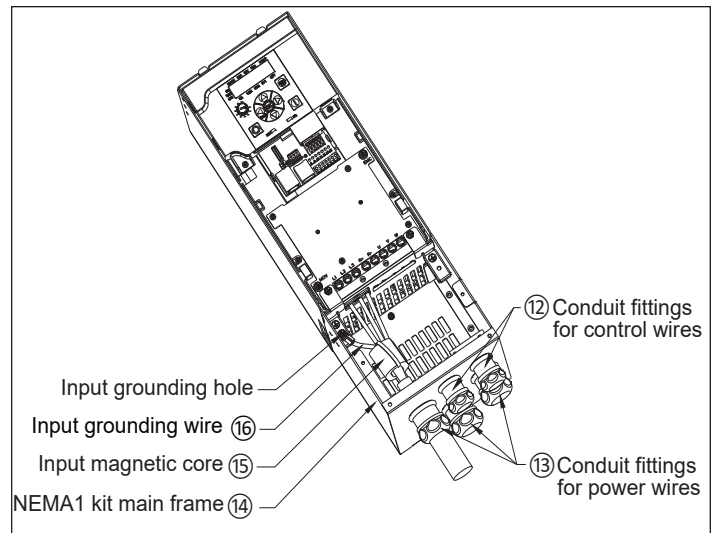


Figure 19. Routing the input cable, input grounding wire, and input magnetic core.

B. Run the output cable (3 motor wires + 1 output grounding wire) through the power wires conduit fitting (13) and EMC grounding clamp (17). Run the 3 motor wires without the output grounding wire through the output magnetic core (19) (if provided). Connect the output grounding wire (18) to the output grounding hole on NEMA 1 main frame (14), then connect the motor wires to U/V/W terminals. Tie output magnetic core (if provided) to the output wires with a cable tie. Use the EMC grounding clamp (17) and two screws (20) to fix the output cable shielding layer (see Figure 20).

Table 6. DM1/DM1 Pro EMI version wiring summary.

Voltage rating	Frame size	Input core	Quantity of line wires	Input terminal block	Input grounding wire assembly	Output core	Output grounding wire assembly
1P	FR1	Yes	2	L2, L3	Run through input core	Yes	Do not run through output core
	FR2	Yes	2	L2, L3	Run through input core	Yes	Do not run through output core
	FR3	Yes	2	L2, L3	Run through input core	No	No output core
3P 230 V/480 V	FR1	Yes	3	L1, L2, L3	Run through input core	Yes	Do not run through output core
	FR2	Yes	3	L1, L2, L3	Run through input core	Yes	Do not run through output core
	FR3	Yes	3	L1, L2, L3	Run through input core	Yes	Do not run through output core
	FR4	Yes	3	L1, L2, L3	Run through input core	Yes	Do not run through output core
3P 575 V	FR2	No	3	L1, L2, L3	No input core	Yes	Do not run through output core
	FR3	Yes	3	L1, L2, L3	Do not run through input core	Yes	Do not run through output core
	FR4	Yes	3	L1, L2, L3	Do not run through input core	Yes	Do not run through output core

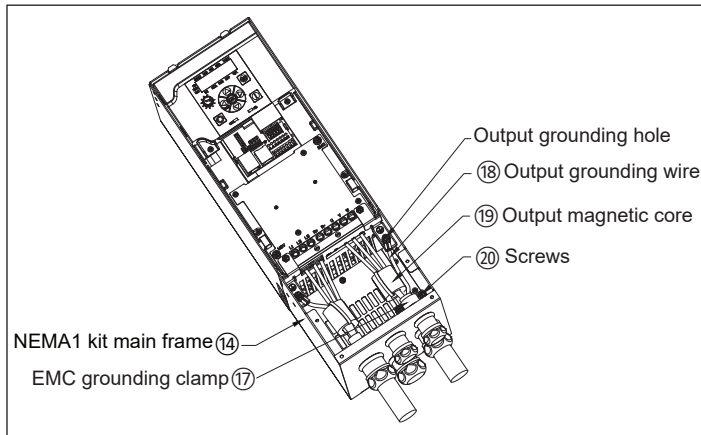


Figure 20. Routing the output cable and motor wires.

Power wiring for non-EMI version drive:

- A. Run the input cable (1P: 2 line wires + 1 input grounding wire; 3P: 3 line wires + 1 input grounding wire) through the power wires conduit fitting (3). Connect the input grounding wire (16) to the input grounding hole on the NEMA 1 main frame (14), then connect the line wires to the input terminals (1P: L2/L3; 3P: L1/L2/L3).
- B. Run the output cable (3 motor wires + 1 output grounding wire) through the power wires conduit fitting (13) and EMC grounding clamp (17). Connect the output grounding wire (18) to the output grounding hole on the NEMA 1 main frame (14), then connect the motor wires to the U/V/W terminals. Use the EMC grounding clamp (17) and two screws (20) to fix the output cable shielding layer.

Control wiring:

Run control wires (RJ45, Ethernet, I/O, STO, Relay, etc.) through the control wire conduit fittings (12) and connect to corresponding terminals or connectors.

Step 6

Fix the NEMA 1 kit conduit plate (22) with the NEMA 1 kit main frame (14) by the two screws (7) (see Figure 21).

Mount the terminal cover (4) back to the drive (see Figure 21).

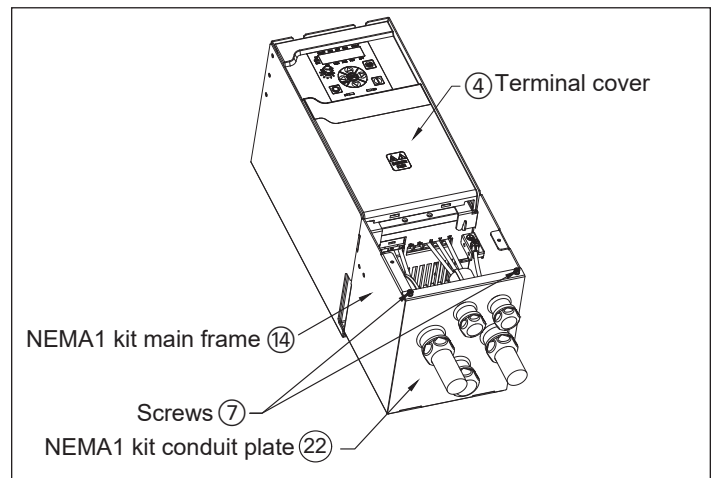


Figure 21. Mounting the NEMA 1 conduit plate and terminal cover.

Mount the NEMA 1 kit front cover (2) back to the conduit box with two screws (3) (see Figure 22).

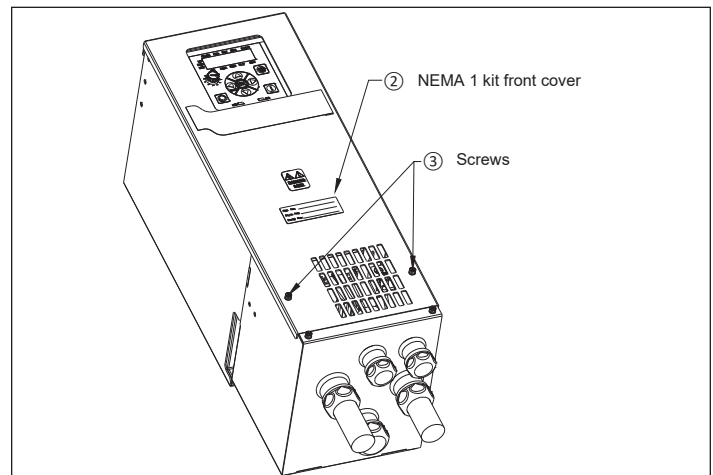


Figure 22. Mounting the NEMA 1 front cover.

Step 7

Mount the drive together with the NEMA 1 kit to the mounting plate with four M5 (or 3/16 in.) screws at the 4 corners (see Figure 23).

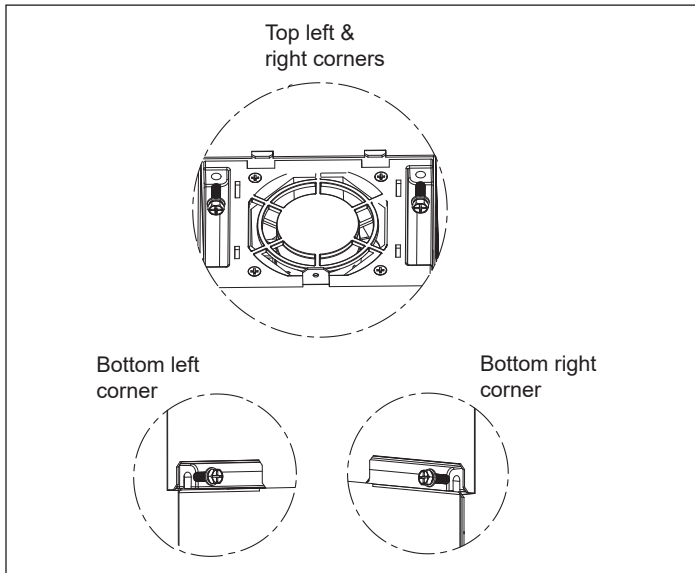


Figure 23. Mounting the drive to the mounting plate.

Mount the NEMA 1 kit fan cover ⑩ back to the NEMA 1 kit drive housing ⑪ with the screws ⑥ (see Figure 24).

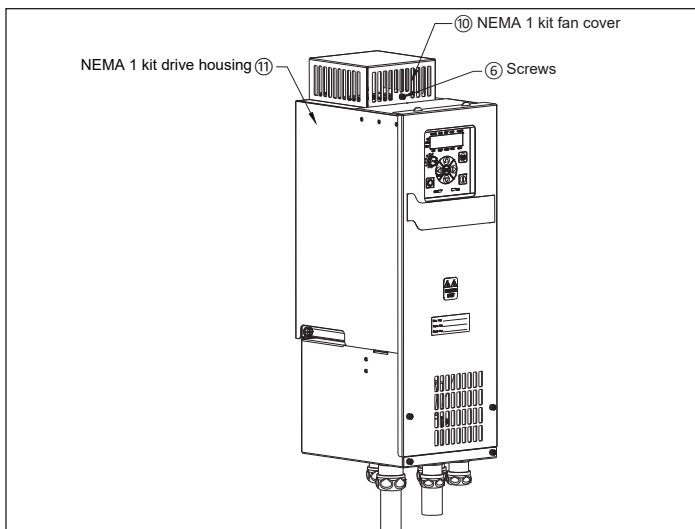


Figure 24. Mounting the fan cover.

Notes:

Notes:

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