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ELECTRIC COMPRESSOR

Abstract

An electric compressor includes a rotary shaft, a compression part, a motor, an inverter that has an inverter circuit, and a housing. The housing includes a motor housing having a peripheral wall extending in an axial direction of the rotary shaft and a bottom wall, an inverter housing that is provided on the peripheral wall, a compression part housing, a shaft support member that has an insertion hole. The inverter housing has an extending portion extending in the axial direction away from the peripheral wall and having a high voltage connector and a low voltage connector. The high voltage connector and the low voltage connector are overlapped with the bottom wall as viewed in the axial direction and disposed within a width of the extending portion.

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Background/Summary

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims priority to Japanese Patent Application No. 2024-021152 filed on Feb. 15, 2024, the entire disclosure of which is incorporated herein by reference.

BACKGROUND ART

[0002] The present disclosure relates to an electric compressor.

[0003] An example of a conventional electric compressor is disclosed in Japanese Patent Application Publication No. 2003-324903. This electric compressor includes a compression part, a motor, an inverter, and a housing.

[0004] The compression part is driven by rotation of a rotary shaft to compress fluid. The motor rotates the rotary shaft. The inverter has an inverter circuit that drives the motor. The housing includes a motor housing and an inverter housing. The motor housing accommodates the motor. The inverter housing accommodates the inverter.

[0005] In this electric compressor, the inverter housing is disposed on an outer peripheral surface side of the motor housing, and the motor housing and the inverter housing are arranged in a radial direction of the rotary shaft. With this arrangement, it is suppressed that an axial length of the electric compressor increases.

[0006] Furthermore, in this electric compressor, each of a high voltage connector and a low voltage connector is connected to a side surface of the inverter housing. A power is supplied from an external power supply to the motor through the high voltage connector. The low voltage connector is a communication connector through which control signals from an external controller, which have a power smaller than the power supplied from the external power supply, are sent to the inverter.

[0007] For example, in a case where a compressor module formed by integrating an electric compressor and a plurality of devices forming a heat pump cycle is used in an air conditioner mounted on a vehicle or the like, it is required to decrease a size of the electric compressor in order to improve ease of mounting this air conditioner on the vehicle.

[0008] However, in the above-described conventional electric compressor, the high voltage connector and the low voltage connector are provided so as to protrude from a side surface of an outer frame portion that is a part of the inverter housing. More specifically, when a direction orthogonal to an axial direction of the rotary shaft is defined as a width direction of the inverter housing, these connectors protrude laterally from the side surface of the inverter housing that is oriented in the width direction. Thus, the inverter housing increases its size in the width direction orthogonal to the axial direction of the rotary shaft by a length of a protruding portion from the side surface of the inverter housing in each of these connectors.

[0009] In addition, when the high voltage connector and the low voltage connector protrude from the side surface of the inverter housing, the protruding portions are easily damaged by an external impact.

[0010] The present disclosure is made in view of the above-described conventional circumstances, and is directed to, in an electric compressor where an inverter housing is provided on a peripheral wall of a cylindrical motor housing, suppressing an increase of size of the inverter housing in an axial direction of a rotary shaft and suppressing that a high voltage connector and a low voltage connector are damaged.

SUMMARY

[0011] In accordance with an aspect of the present disclosure, there is provided an electric compressor including a rotary shaft, a compression part that is driven by rotation of the rotary shaft to compress fluid, a motor that rotates the rotary shaft, an inverter that has an inverter circuit configured to drive the motor, and a housing in which the rotary shaft, the compression part, the motor, and the inverter are accommodated. The housing includes a motor housing that is formed in a bottomed tubular shape having a tubular peripheral wall extending in an axial direction of the rotary shaft and a bottom wall connected to an end of the peripheral wall and in which the motor is accommodated inside the peripheral wall, an inverter housing that is provided on the peripheral wall and in which the inverter is accommodated, a compression part housing that is formed in a bottomed tubular shape and provided opposite to the bottom wall across the motor and in which the compression part is accommodated, and a shaft support member that has an insertion hole through which the rotary shaft is inserted, the shaft support member being disposed between an opening of the motor housing and an opening of the compression part housing, the shaft support member rotatably supporting the rotary shaft, the shaft support member defining with the motor housing a motor chamber in which the motor is accommodated and defining with the compression part housing a compression part chamber in which the compression part is accommodated. The inverter housing has an extending portion extending in the axial direction relative to the bottom wall away from the peripheral wall. The extending portion has a high voltage connector through which a power from a high voltage power supply is supplied to the motor and a low voltage connector through which a power smaller than the power supplied from the high voltage power supply is supplied to the inverter. The high voltage connector and the low voltage connector are each overlapped with the bottom wall as viewed in the axial direction of the rotary shaft. The high voltage connector and the low voltage connector are disposed within a width of the extending portion.

[0012] Other aspects and advantages of the disclosure will become apparent from the following description, taken in conjunction with the accompanying drawings, illustrating by way of example the principles of the disclosure.

Description

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] The disclosure, together with objects and advantages thereof, may best be understood by reference to the following description of the embodiments together with the accompanying drawings in which:

[0014] FIG. **1** is a left side view schematically illustrating a compressor module including an electric compressor of a first embodiment;

[0015] FIG. **2** is a top view schematically illustrating the compressor module including the electric compressor of the first embodiment;

[0016] FIG. **3** is a back view schematically illustrating the compressor module including the electric compressor of the first embodiment;

[0017] FIG. **4** is a partial top view schematically and mainly illustrating an inverter housing according to the electric compressor of the first embodiment;

[0018] FIG. **5** is a back view schematically illustrating the inverter housing, a motor housing, a power supply connector as a high voltage connector, a communication connector as a low voltage connector, an electric connecting member, and mounting legs according to the electric compressor of the first embodiment;

[0019] FIG. **6** is a partial perspective view schematically illustrating a part of the inverter housing, a part of the motor housing, and a hermetically sealed terminal according to the electric compressor of the first embodiment;

[0020] FIG. **7** is a perspective view schematically illustrating a part of a case and busbars in the electric connecting member, a part of the hermetically sealed terminal, and a part of the inverter housing according to the electric compressor of the first embodiment;

[0021] FIG. **8** is a perspective view schematically illustrating the inverter housing, the power supply connector, and the communication connector according to the electric compressor of the first embodiment;

[0022] FIG. **9** is a perspective view schematically illustrating the electric connecting member, as viewed from diagonally behind the electric connecting member, according to the electric compressor of the first embodiment;

[0023] FIG. **10** is a perspective view schematically illustrating the electric connecting member, as viewed from diagonally in front of the electric connecting member, according to the electric compressor of the first embodiment;

[0024] FIG. **11** is a perspective view schematically illustrating a part of the case, the busbars, receptacle terminals as first terminals provided on one end portions of the busbars, and plugs as second terminals provided on the other end portions of the busbars, as viewed from diagonally behind them, according to the electric compressor of the first embodiment;

[0025] FIG. **12** is a perspective view schematically illustrating a state where the receptacle terminals provided on the one end portions of the busbars are connected to conductive pins in the hermetically sealed terminal and the plugs provided on the other end portions of the busbars are connected to jacks as inverter terminals, according to the electric compressor of the first embodiment; and

[0026] FIG. **13** is a back view schematically illustrating an inverter housing, a motor housing, a power supply connector, a communication connector, an electric connecting member, and mounting legs, according to an electric compressor of a second embodiment.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0027] The following will describe a first embodiment and a second embodiment according to the present disclosure with reference to the drawings.

First Embodiment

[0028] An electric compressor (hereinafter, simply called the compressor) **20** of the first embodiment is specifically a scroll electric compressor. This compressor **20** is mounted on a vehicle, which is not illustrated, and is used in an air conditioner for the vehicle. This air conditioner for the vehicle is a heat pump cycle device that performs air-conditioning inside a vehicle interior and controls temperature of equipment mounted on the vehicle.

[0029] In the present embodiment, a front-rear direction and an up-down direction of the compressor **20** are defined by solid arrows illustrated in FIG. **1**. In addition, in FIG. **1**, a front side of a sheet is defined as a left side of the compressor **20** and a rear side of the sheet is defined as a right side of the compressor **20**. In FIG. **2** and subsequent figures, the front-rear direction, the up-down direction, and the left-right direction of the compressor **20** are defined in correspondence with FIG. **1**. In the following description, a front and rear, an upper and lower, and a left and right are all determined based on the front and rear, the upper and lower, and the left and right in FIG. **1**. Note that these directions are examples used for ease of explanation, and a posture of the compressor **20** is changed as appropriate in correspondence with a vehicle on which the compressor **20** is mounted, or the like.

[0030] As illustrated in FIGS. **1** to **3**, the compressor **20** of the first embodiment is a part of a compressor module **10** assembled in a heat pump cycle device, which is not illustrated. The compressor module **10** is formed of a plurality of devices that is integrated with each other and constitutes the heat pump cycle device. Specifically, the compressor module **10** is formed by integrating, for example, an expansion valve, a regulating valve, an on-off valve, a chiller, a receiver, and a water heat exchanger, and a muffler in addition to the compressor **20**, of the devices that constitutes the heat pump cycle devices. Illustrations of these devices excluding the compressor **20** are omitted.

[0031] This heat pump cycle device switches and controls the on-off valve or the like in accordance with various operation modes to heat or cool an air flown into the vehicle interior by refrigerant circulating in a refrigerant circuit and to cool a cooling heat medium circulating in a heat medium circuit by the refrigerant circulating in the refrigerant circuit.
[0032] This compressor module **10** includes a flow passage box **12** formed in a substantially rectangular flat shape. The plurality of devices that constitutes the heat pump cycle device is attached to the flow passage box **12**. Although not illustrated, the flow passage box **12** includes a heat medium passage through which the cooling heat medium circulating in the heat medium circuit flows, or the like in addition to a refrigerant passage through which the refrigerant circulating in the refrigerant circuit of the heat pump cycle device flows.
[0033] The compressor **20** is within an outline of the flow passage box **12** formed of the rectangular flat plates. In a positional relationship between the flow passage box **12** and the compressor **20**, a rotation axis O of a rotary shaft **22** in the compressor **20** extends in parallel to a main surface of the flow passage box **12**, which has the largest area of surfaces of the flow passage box **12** formed of the rectangular flat plates. Here, the rotary shaft **22** will be described later. More specifically, the rotation axis O of the rotary shaft **22** extends in parallel to a longitudinal direction of the main surface of the flow passage box **12**. Note that the compressor **20** may be disposed such that the rotation axis O of the rotary shaft **22** extends perpendicular to the main surface of the flow passage box **12**.
[0034] The compressor **20** includes the rotary shaft **22**, a compression part **24**, a motor **26**, an inverter **28**, and a housing **30**.
[0035] The housing **30** includes a compression part housing **32**, a motor housing **34**, an inverter housing **36**, and a shaft support member **37**. The compression part housing **32** and the motor housing **34** each have a substantially cylindrical shape. More specifically, the compression part housing **32** is formed in a bottomed cylindrical shape and has a peripheral wall formed in a cylindrical shape extending in an axial direction of the rotary shaft **22** and a bottom wall connected to a front end of this peripheral wall. The compression part housing **32** is opened at a rear end thereof. In addition, the motor housing **34** is formed in a bottomed cylindrical shape and has a peripheral wall formed in a cylindrical shape extending in the axial direction of the rotary shaft **22** and a bottom wall **34**B connected to a rear end of this peripheral wall. The motor housing **34** is opened at a front end thereof. The inverter housing **36** is formed in a substantially rectangular flat shape. The shaft support member **37** is formed in a substantially circular flat shape.
[0036] The rotary shaft **22** is disposed inside the compression part housing **32** and the motor housing **34**. The rotary shaft **22** is formed in a columnar shape extending in the front-rear direction of the compressor **20**. The rotary shaft **22** is rotatably supported around the rotation axis O by the motor housing **34** and the shaft support member **37**.
[0037] The compression part housing **32** and the motor housing **34** are arranged in a direction in which the rotation axis O of the rotary shaft **22** extends. The motor housing **34** is located behind the compression part housing **32**. That is, the compression part housing **32** is disposed opposite to the bottom wall **34**B of the motor housing **34** across the motor **26**.
[0038] The motor housing **34** and the inverter housing **36** are arranged in a radial direction of the rotary shaft **22**. That is, the inverter housing **36** is provided on a side surface of the motor housing **34**, that is, on an outer peripheral surface side of the motor housing **34**.
[0039] In the following description, the direction in which the rotation axis O extends is simply called the axial direction. That is, the axial direction means the axial direction of the rotary shaft **22**, and a view in the axial direction means the view in the axial direction of the rotary shaft **22**. In addition, the radial direction means the radial direction of the rotary shaft **22**, that is, a direction orthogonal to the axial direction of the rotary shaft **22**. This direction orthogonal to the axial direction of the rotary shaft **22** includes a width direction of and a height direction of the inverter housing **36** (an extending portion **36**B, which will be described later) as viewed in axial direction.

Furthermore, the axial direction coincides with the front-rear direction of the compressor **20**, and for the convenience of explanation, one side in the axial direction means a front side of the compressor **20** and the other side in the axial direction means a rear side of the compressor **20**. The width direction of the inverter housing **36** coincides with the left-right direction of the compressor **20**, and the height direction of the inverter housing **36** coincides with the up-down direction of the compressor **20**.

[0040] The compression part housing **32** cooperates with the shaft support member **37** to define a compression part chamber **32**A. The motor housing **34** cooperates with the shaft support member **37** to define a motor chamber **34**A. The motor chamber **34**A is formed inside the peripheral wall of the motor housing **34**. The inverter housing **36** cooperates with the motor housing **34** to define an inverter chamber **36**A. The inverter chamber **36**A is formed on the outer peripheral surface side of the peripheral wall of the motor housing **34**. The shaft support member **37** is located between the opening of the compression part housing **32** and the opening of the motor housing **34**. This shaft support member **37** cooperates with the compression part housing **32** to define the compression part chamber **32**A and cooperates with the motor housing **34** to define the motor chamber **34**A. The shaft support member **37** has an insertion hole **37**A through which the rotary shaft **22** is inserted and rotatably supports the rotary shaft **22**.

[0041] The compression part **24** is accommodated in the compression part chamber **32**A. The compression part **24** compresses refrigerant by rotation of the rotary shaft **22**. The refrigerant is an example of the “fluid” in the present disclosure. The compression part **24** is connected to the refrigerant passage of the flow passage box **12** through a high pressure refrigerant hose **14**. The motor chamber **34**A is connected to the refrigerant passage of the flow passage box **12** through a low pressure refrigerant hose, which is not illustrated. The refrigerant flowing from the refrigerant passage of the flow passage box **12** into the motor chamber **34**A through the low pressure refrigerant hose is sucked into the compression part **24** through a suction passage formed in the shaft support member **37**. Here, an illustration of the suction passage is omitted.

[0042] The compression part **24** includes a fixed scroll and an orbiting scroll, which are not illustrated. In the compression part **24**, the orbiting scroll rotates by the rotation of the rotary shaft **22**, which changes a volume of a compression chamber formed between the fixed scroll and the orbiting scroll. As a result, the compression part **24** sucks the refrigerant from the refrigerant passage of the flow passage box **12** through the low pressure refrigerant hose, compresses the refrigerant, and discharges the compressed refrigerant. The refrigerant discharged from the compression part **24** flows into the refrigerant passage of the flow passage box **12** through the high pressure refrigerant hose **14**.

[0043] The motor **26** is accommodated in the motor chamber **34**A. The motor **26** has a stator and a rotor, which are not illustrated. The stator is connected to the inverter **28**. The rotary shaft **22** is fixed to the rotor. The rotor is rotated by a power supplied from the inverter **28** to the stator, which rotates the rotary shaft **22**.

[0044] The inverter **28** is accommodated in the inverter chamber **36**A. As illustrated in FIG. **4**, the inverter **28** includes an inverter circuit **28**A, a control circuit **28**B, and a high voltage input filter **28**C. The inverter circuit **28**A drives the motor **26**. The control circuit **28**B controls the inverter circuit **28**A. The high voltage input filter **28**C reduces noise in a power supplied from an external power supply **57** through a power supply connector **56**, which will be described later. The inverter circuit **28**A, the control circuit **28**B, and the high voltage input filter **28**C are each formed of an empty circuit board and electronic devices, switching elements, or the like mounted on the empty circuit board.

[0045] The compressor **20** includes three conductive pins **42** and three jacks **52**. Each of the jacks **52** is an example of an “inverter terminal” in the present disclosure. The three conductive pins **42** are arranged side by side in the left-right direction. The conductive pins **42** have the same configuration. The three jacks **52** are arranged side by side in the left-right direction. The jacks **52** have the same configuration.

[0046] As illustrated in FIGS. **6** and **7**, the conductive pins **42** are each formed in a stick shape and disposed in a hermetically sealed terminal **38**. In the hermetically sealed terminal **38**, an insulating member is interposed between any adjacent two of the conductive pins **42**.

[0047] As illustrated in FIG. **6**, the hermetically sealed terminal **38** is provided on the bottom wall **34**B of the motor housing **34**. The bottom wall **34**B is located at an end of the motor housing **34** on the other side in the axial direction. The bottom wall **34**B is formed in a substantially disc shape and extends in the radial direction at the end of the motor housing **34** on the other side in the axial direction. A first through hole **34**C (see FIG. **1**) is formed in the bottom wall **34**B, and the first through hole **34**C extends through the bottom wall **34**B in the axial direction and connects the motor chamber **34**A to the outside thereof. The hermetically sealed terminal **38** is disposed in this first through hole **34**C. Each of the conductive pins **42** in the hermetically sealed terminal **38** extends straight in the axial direction through the bottom wall **34**B. The hermetically sealed terminal **38** is fixed to the bottom wall **34**B by two first fastening members **39**. The hermetically sealed terminal **38** ensures air-tightness of the motor chamber **34**A.

[0048] The conductive pins **42** are electrically connected to the motor **26**. One end portion of each of the conductive pins **42** is inserted into a terminal box **44** that is made of resin and disposed in the motor chamber **34**A (see FIG. **1**). Although not illustrated, in the terminal box **44**, three motor wires extending from the stator of the motor **26** through connecting terminals are each electrically connected to the one end portion of the corresponding conductive pin **42**. The other end portion of each of the conductive pins **42** is a connection end portion **46** that protrudes from the bottom wall **34**B to the outside of the motor chamber **34**A in the axial direction.

[0049] As illustrated in FIG. **6**, the inverter housing **36** has an extending portion through hole **48** in an end of the inverter housing **36** on the other side in the axial direction, that is, at an end of the extending portion **36**B, which will be described later. The extending portion through hole **48** extends straight in the axial direction and is opened toward the other side in the axial direction at the end of the extending portion **36**B. The extending portion through hole **48** allows the inverter chamber **36**A to communicate with the outside. The extending portion through hole **48** is formed in an elongated hole shape whose longitudinal direction coincides with the left-right direction of the compressor **20**.

[0050] As illustrated in FIGS. **1** and **4**, the jacks **52** are disposed in the inverter chamber **36**A of the inverter housing **36**. The jacks **52** each face the extending portion through hole **48** in the axial direction. As illustrated in FIG. **12**, the jacks **52** each have a pair of holding pieces that hold the corresponding plug **68** therebetween by an elastic restoring force. Here, plugs **68** will be described later. The jacks **52** each have an opening end into which the corresponding plug **68** is engaged at the end of the jack **52** on the other side in the axial direction. An opening at the opening end of each of the jacks **52** increases in diameter such that the corresponding plug **68**, which moves relative to the jack **52**, is easily inserted into the opening as the jack **52** extends toward the other side in the axial direction. Thus, when the plugs **68** are moved in the axial direction relative to the jacks **52** and engaged into the jacks **52**, the plugs **68** and the jacks **52** are connected to each other.

[0051] The jacks **52** are electrically connected to the inverter circuit **28**A through three conductive members **54** (see FIG. **4**).

[0052] As illustrated in FIG. **6**, the inverter housing **36** has the extending portion **36**B extending in the axial direction relative to the bottom wall **34**B of the motor housing **34** away from the peripheral wall of the motor housing **34**. The extending portion **36**B extends relative to bottom wall **34**B toward the other side in the axial direction. As also illustrated in FIG. **4**, a rear end portion of the inverter housing **36** corresponds to the extending portion **36**B. In the left-right direction, a width of the extending portion **36**B is equivalent to a width of a remaining portion of the inverter housing **36** excluding the extending portion **36**B. The extending portion **36**B protrudes in the axial direction relative to the bottom wall **34**B of the motor housing **34** over an electric connecting member **60**, which will be described later.

[0053] As illustrated in FIGS. **1** to **4**, the power supply connector **56** and a communication connector **58** are connected to the extending portion **36**B. The power supply connector **56** is an example of the “high voltage connector” in the present disclosure. The communication connector **58** is an example of the “low voltage connector” in the present disclosure. A power is supplied from the external power supply **57** to the motor **26** through the power supply connector **56**. The external power supply **57** is an example of the “high voltage power supply” in the present disclosure. The communication connector **58** sends control signals from an external controller **59** to the control circuit **28**B of the inverter **28**. Here, the control signals have a power smaller than the power supplied from the external power supply **57**. The external controller **59** is an example of the “low voltage power supply” in the present disclosure.

[0054] As illustrated in FIGS. **5** and **6**, the power supply connector **56** and the communication connector **58** are connected to an outer bottom surface **36**C of the extending portion **36**B near the motor housing **34**. As viewed in the axial direction, a portion of the power supply connector **56** is overlapped with the bottom wall **34**B and a portion of the communication connector **58** is overlapped with the bottom wall **34**B.

[0055] As also illustrated in FIG. **7**, a mounting base **70** is formed integrally with the extending portion **36**B and located on a left end portion of the outer bottom surface **36**C of the extending portion **36**B on the other side in the axial direction. The mounting base **70** has a first communication hole **71** formed in a substantially L-shape extending through the mounting base **70**. One end of the first communication hole **71** is opened in the outer bottom surface **36**C and the other end of the first communication hole **71** is opened in an end surface **70**A of the mounting base **70** on the other side in the axial direction. The first communication hole **71** connects the inverter chamber **36**A to the outside thereof.

[0056] As illustrated in FIG. **8**, the power supply connector **56** is fixed to the end surface **70**A of the mounting base **70** on the other side in the axial direction by four third fastening members **72**. Note that in FIG. **8**, three of the four third fastening members **72** are illustrated. The power supply connector **56** has a power supply connector connecting portion **56**A.

[0057] As illustrated in FIGS. **1**, **2**, and **4**, a rear end portion of the power supply connector connecting portion **56**A in the power supply connector **56** slightly protrudes over the extending portion **36**B in the axial direction.

[0058] One end of a power supply cable **57**A is connected to the external power supply **57**. The power supply cable **57**A is an example of the “high voltage cable” of the present disclosure. A power supply cable connector **57**B is provided at the other end of the power supply cable **57**A. The power supply cable connector **57**B is an example of the “high voltage cable connector” in the present disclosure. This power cable connector **57**B is connected to the power supply connector connecting portion **56**A of the power supply connector **56** in the axial direction.

[0059] As illustrated in FIG. **6**, a second communication hole **73** is formed in a right end portion of the outer bottom surface **36**C of the extending portion **36**B on the other side in the axial direction. The second communication hole **73** connects the inverter chamber **36**A to the outside thereof.

[0060] As illustrated in FIG. **8**, the communication connector **58** is fixed to a portion of the outer bottom surface **36**C around this second communication hole **73** by fastening members, which are not illustrated. The communication connector **58** has a communication connector connecting portion **58**A.

[0061] As illustrated in FIGS. **2** and **4**, a rear end portion of the communication connector connecting portion **58**A in the communication connector **58** slightly protrudes over the extending portion **36**B in the axial direction.

[0062] One end of a communication cable **59**A is connected to the external controller **59**. The communication cable **59**A is an example of the “low voltage cable” of the present disclosure. A communication cable connector **59**B is provided at the other end of the communication cable **59**A.

The communication cable connector **59**B is an example of the “low voltage cable connector” in the present disclosure. This communication cable connector **59**B is connected to the communication connector connecting portion **58**A of the communication connector **58** in the axial direction.

[0063] The power supply connector connecting portion **56**A of the power supply connector **56** is electrically connected to the inverter circuit **28**A of the inverter **28** through a power supply side conductive member, which is not illustrated. The communication connector connecting portion **58**A of the communication connector **58** is electrically connected to the control circuit **28**B of the inverter **28** through a communication side conductive member, which is not illustrated.

[0064] As illustrated in FIG. **5**, the power supply connector **56** and the communication connector **58** are disposed within the width of the extending portion **36**B as viewed in the axial direction. Note that a circumscribed rectangular ER in which the inverter housing **36** including the extending portion **36**B and the motor housing **34** are present is, as viewed in the axial direction, illustrated by a long dashed double short dashed line in FIG. **5**. As viewed in the axial direction, the power supply connector **56**, the communication connector **58**, and the electric connecting member **60** located between these connectors are disposed within the circumscribed rectangular ER.

[0065] The electric connecting member **60** is provided outside the housing **30** on the other side in the axial direction. The electric connecting member **60** is located between the bottom wall **34**B of the motor housing **34** and the end of the extending portion **36**B in the axial direction. The electric connecting member **60** is fixed to the bottom wall **34**B by two second fastening members **61** (see FIG. **9**) with a head **60**B of the electric connecting member **60** extending through the extending portion through hole **48**. Here, the head **60**B of the electric connecting member **60** will be described later. The electric connecting member **60** electrically connects the conductive pins **42** to the jacks **52**. In attachment of this electric connecting member **60**, when the electric connecting member **60** is moved in the axial direction, receptacle terminals **66** are connected to the connection end portions **46** of the conductive pins **42** and the plugs **68** are connected to the jacks **52** by engagement. The receptacle terminals **66** and the plugs **68** will be described later.

[0066] As illustrated in FIG. **3**, the electric connecting member **60** is disposed on an imaginary straight line VL. The imaginary straight line VL intersects with the rotation axis O of the rotary shaft **22** and extends in the up-down direction orthogonal to the axial direction. Furthermore, as also illustrated in FIG. **5**, in the left-right direction orthogonal to the axial direction, the electric connecting member **60** is interposed between the power supply connector **56** and the communication connector **58**. That is, the power supply connector **56** is disposed opposite to the communication connector **58** across the electric connecting member **60**.

[0067] As illustrated in FIG. **9**, the electric connecting member **60** has a body **60**A and the head **60**B. The body **60**A is formed in a substantially rectangular shape when viewed in a cross-section orthogonal to the axial direction (the front-rear direction). The head **60**B is formed in a substantially elongated circular shape having a pair of straight portions extending in parallel to each other in the left-right direction, which are longitudinal sides of the head **60**B, when viewed in the cross-section orthogonal to the axial direction.

[0068] As also illustrated in FIGS. **10** to **12**, the electric connecting member **60** has a case **62**, three busbars **64**, the three receptacle terminals **66**, and the three plugs **68**. Each of the receptacle terminals **66** is an example of the “first terminal” of the present disclosure. Each of the plugs **68** is an example of the “second terminal” in the present disclosure.

[0069] The plugs **68** are formed integrally with the busbars **64** and located at one end portions of the busbars **64** on the one side in the axial direction. The plugs **68** extend straight in the axial direction.

[0070] As illustrated in FIG. **10**, the plugs **68** are disposed outside the case **62**. The plugs **68** are inserted into the inverter chamber **36**A through the extending portion through hole **48**. As illustrated in FIGS. **1** and **12**, the plugs **68** are connected to the jacks **52** which are disposed in the inverter chamber **36**A.

[0071] The receptacle terminals **66** are fixed to the other end portions of the busbars **64**. The receptacle terminals **66** are each fixed at a predetermined position inside the case **62**. That is, as the case **62** is moved in a surface direction of the bottom wall **34**B of the motor housing **34**, the receptacle terminals **66** are also moved in the surface direction of the bottom wall **34**B of the motor housing **34**. A diameter of an opening of each of the receptacle terminals **66** into which the connecting end portion **46** of the corresponding conductive pin **42** is inserted is the same as a diameter of the connecting end portion **46** of the conductive pin **42**.
[0072] As illustrated in FIG. **11**, the busbars **64** are disposed such that a thickness direction of each of the busbars **64** coincides with the direction orthogonal to the axial direction. Each of the busbars **64** is formed in a belt-like plate shape and formed as one piece by bending a metal plate or other processing. Each of the busbars **64** has three edge-wise bending portions and two flat-wise bending portions. More specifically, each of the busbars **64** has a first flat-wise bending portion **64**A, a second flat-wise bending portion **64**B, a first edge-wise bending portion **64**C, a second edge-wise bending portion **64**D, and a third edge-wise bending portion **64**E, which are arranged in this order from the other end portion to the one end portion.
[0073] Thus, the busbars **64** are bent by edge-wise bending so that the plugs **68** are engaged with the jacks **52**, and the busbars **64** are also bent by flat-wise bending so that positions of the receptacle terminals **66** are adjustable in the surface direction of the bottom wall **34**B of the motor housing **34**.
[0074] That is, in each of the busbars **64**, the corresponding receptacle terminal **66**, which is formed in the other end portion of the busbar **64**, is swingable with the first flat-wise bending portion **64**A as a fulcrum relative to a position of the plug **68**, which is formed in the one end portion of the busbars **64**, in the direction orthogonal to the axial direction, that is, in the surface direction of the bottom wall **34**B of the motor housing **34**. The busbars **64** are accommodated in the case **62**. Accordingly, the electric connecting member **60** has a configuration in which as the case **62** is moved in the surface direction of the bottom wall **34**B of the motor housing **34**, each of the receptacle terminals **66**, which is provided on the other end portion of the corresponding busbar **64** accommodated in the case **62**, is swingable in the surface direction of the bottom wall **34**B of the motor housing **34**. As a result, in each of the busbars **64**, the receptacle terminal **66** is engaged with the conductive pin **42** while the plug **68** is engaged into the jack **52**. Thus, the receptacle terminals **66** are connected to the conductive pins **42** outside the motor housing **34**.
[0075] As illustrated in FIG. **10**, the case **62** has a base portion **62**A made of resin, a cover portion **62**B made of resin, a first seal portion **62**C, and a second seal portion **62**D.
[0076] The base portion **62**A and the cover portion **62**B each have a body-corresponding portion having a shape in correspondence with the body **60**A of the electric connecting member **60** as viewed in the cross-section orthogonal to the axial direction and a head-corresponding portion having a shape in correspondence with the head **60**B of the electric connecting member **60** as viewed in the cross-section orthogonal to the axial direction.
[0077] As illustrated in FIGS. **10** and **11**, the base portion **62**A has two first insertion holes **65**A, two second insertion holes **65**B, three second through holes **65**C, and one third insertion hole **65**D. The first insertion holes **65**A, the second insertion holes **65**B, and the second through holes **65**C are formed in the body-corresponding portion of the base portion **62**A. The third insertion hole **65**D is formed in the head-corresponding portion of the base portion **62**A.
[0078] The body-corresponding portion of the base portion **62**A is disposed so as to surround the hermetically sealed terminal **38**, which is provided on the bottom wall **34**B. That is, the hermetically sealed terminal **38** is accommodated in the case **62**, and not exposed to an outside of the case **62**.
[0079] The first fastening members **39** used for fixing the hermetically sealed terminal **38** to the bottom wall **34**B are inserted into the first insertion holes **65**A.
[0080] The second fastening members **61** used for fixing the electric connecting member **60** to the

bottom wall **34**B are inserted into the second insertion holes **65**B. The connection ends **46** of the conductive pins **42** pass through the second through holes **65**C. Portions of the three bus bars **64** near the plugs **68** and a part of the case **62** are inserted into the third insertion hole **65**D.
[0081] The cover portion **62**B is integrated with the base portion **62**A with the busbars **64** and the receptacle terminals **66** interposed between the cover portion **62**B and the base portion **62**A. That is, the busbars **64** and the receptacle terminals **66** are accommodated in the case **62**. The cover portion **62**B provides insulation among the busbars **64**.
[0082] The first seal portion **62**C is formed of a ring-shaped packing that surrounds the body-corresponding portion of the base portion **62**A. As illustrated in FIG. **7**, in a state where the electric connecting member **60** is attached to the bottom wall **34**B, an end surface of the first seal portion **62**C having the ring shape comes in contact with the bottom wall **34**B, which forms a flat surface sealing portion.
[0083] The second seal portion **62**D is disposed at the head-corresponding portion of the cover portion **62**B. The second seal portion **62**D is formed of a ring-shaped packing whose outer peripheral surface has a shape in correspondence with a shape of an inner peripheral surface of the extending portion through hole **48** of the inverter housing **36**. As illustrated in FIG. **7**, in the state where the electric connecting member **60** is attached to the bottom wall **34**B, the outer peripheral surface of the second seal portion **62**D having the ring shape comes in contact with the inner peripheral surface of the extending portion through hole **48**, which forms a cylindrical (tubular) sealing portion.
[0084] As illustrated in FIGS. **1** to **3**, three mounting legs **80** are provided on the housing **30**. The mounting legs **80** are each formed integrally with an outer surface of the housing **30**, that is, an outer peripheral surface of the peripheral wall of the motor housing **34** or an outer peripheral surface of the peripheral surface of the compression part housing **32**.
[0085] Two of the three mounting legs **80** are formed on the motor housing **34** and the remaining one is formed on the compression part housing **32**. More specifically, the two mounting legs **80** are each disposed in lower portions in rear left and rear right end portions of the motor housing **34**. In addition, the remaining mounting leg **80** is disposed in a lower portion of in a rear right end portion of the compression part housing **32**.
[0086] As illustrated in FIG. **5**, as viewed in the axial direction, the three mounting legs **80** are disposed within the circumscribed rectangular ER of the housing **30** in which the inverter housing **36** and the motor housing **34** are present. In addition, as viewed in the axial direction, the three mounting legs **80** are located opposite to the inverter housing **36** across the power supply connector **56** and the communication connector **58**. More specifically, as viewed in the axial direction, the mounting leg **80** disposed on the lower portion of in the rear left end portion of the motor housing **34** is located opposite to the inverter housing **36** across the power supply connector **56**. This mounting leg **80** and the power supply connector **56** are away from each other by a predetermined distance in the up-down direction. In addition, as viewed in the axial direction, the mounting leg **80** disposed in the lower portion of the rear right end portion of the motor housing **34** and the mounting leg **80** disposed in the lower portion in the rear right end portion of the compression part housing **32** are located opposite to the inverter housing **36** across the communication connector **58**. This mounting leg **80** disposed on the lower portion of the rear right end portion of the motor housing **34** and the communication connector **58** are away from each other by a predetermined distance in the up-down direction.
[0087] The mounting legs **80** extend in parallel to each other in the up-down direction. In other words, the mounting legs **80** extend in a direction orthogonal to or substantially orthogonal to the circuit board on which the inverter circuit **28**A in the inverter chamber **36**A is mounted. The mounting legs **80** extend in the up-down direction and each have an internal thread hole **80**A that is opened downward.
[0088] As illustrated in FIGS. **1** to **3**, three mounting portions **82** each formed in a plate shape are

provided on the flow passage box **12**. Each of the mounting portions **82** is an example of the "object" to which the motor housing **34** is mounted in the present disclosure. The mounting portions **82** extend from a left side surface **12**A of the flow passage box **12** horizontally in the left direction. The mounting portions **82** each have a mounting hole **82**A at a position corresponding to the mounting leg **80**.

[0089] A damper **84** is provided in each of the mounting holes **82**A. Although not illustrated, the damper **84** has an outer cylinder, an inner cylinder, and a tubular rubber elastic body that connects the outer cylinder to the inner cylinder. The outer cylinder of the damper **84** is engaged with the corresponding mounting hole **82**A. An external thread portion **86**A of a fourth fastening member **86** for fastening the mounting leg **80** to the mounting portion **82** is inserted into the inner cylinder of the damper **84**. Then, the external thread portion **86**A of the fourth fastening member **86** is screwed into the internal thread hole **80**A of the mounting leg **80**. Thus, the compressor **20** is fixed to the flow passage box **12** by three-point support of the three mounting legs **80**.

[0090] In this compressor **20**, the power supply connector **56** and the communication connector **58** are connected to the outer bottom surface **36**C being a lower surface of the extending portion **36**B of the inverter housing **36**, which extends in the axial direction relative to the bottom wall **34**B of the motor housing **34**. Then, as viewed in the axial direction, the power supply connector **56** and the communication connector **58** are disposed such that the power supply connector **56** and the communication connector **58** are overlapped with the bottom wall **34**B.

[0091] Therefore, as compared with a case where these connectors are provided so as to protrude from an upper surface of the extending portion **36**B, it is suppressed that the inverter housing **36** increases in size in the radial direction and the up-down direction, which are orthogonal to the axial direction. In addition, it is suppressed that the power supply connector **56** and the communication connector **58** are damaged in the axial direction by an external impact due to the bottom wall **34**B.

[0092] Furthermore, as viewed in the axial direction, the power supply connector **56** and the communication connector **58** are disposed within the width of the extending portion **36**B. This suppresses an increase of size of the inverter housing **36** in the width direction orthogonal to the axial direction by the power supply connector **56** and the communication connector **58**. This also suppresses that the power supply connector **56** and the communication connector **58** are damaged in the width direction of the inverter housing **36** by an external impact.

[0093] Accordingly, in the compressor **20** in which the inverter housing **36** is provided on the peripheral wall of the motor housing **34**, it is suppressed that the inverter housing **36** increases in size in the direction orthogonal to the axial direction and that the power supply connector **56** and the communication connector **58** are damaged.

[0094] In this compressor **20**, as viewed in the axial direction, the electric connecting member **60** that electrically connects the conductive pins **42** to the jacks **52** is disposed between the power supply connector **56** and the communication connector **58**. With this configuration, a distance between the power supply connector **56** and the communication connector **58** is easily ensured, which is advantageous for reducing noise transmitting from the power supply connector **56** to the communication connector **58**. In addition, since the electric connecting member **60** does not protrude over the extending portion **36**B in the width direction thereof, the compressor **20** does not also increase in size in the width direction of the inverter housing **36** by the electric connecting member **60**. It is also suppressed that the electric connecting member **60** is damaged in the axial direction and in the width direction of the inverter housing **36** by an external impact.

[0095] In this compressor **20**, the conductive pins **42** and the receptacle terminals **66** in the electric connecting member **60** are connected to each other and the plugs **68** and the jacks **52** in the inverter housing **36** are connected to each other by moving the electric connecting member **60** in the axial direction. In addition, the power supply connector **56** and the power supply cable **57**A are connected to each other in the axial direction and the communication connector **58** and the communication cable **59**A are connected to each other in the axial direction. As a result, these

connections become easy and also a working space for these connections is easily ensured. This makes an assembly of the compressor **20** simple.
[0096] In this compressor **20**, the mounting legs **80** for mounting the housing **30** to the mounting portions **82** are separated from the inverter housing **36** by the power supply connector **56** and the communication connector **58**. That is, the mounting leg **80** disposed at the lower portion of the rear left end portion of the motor housing **34** is separated from the inverter housing **36** by the power supply connector **56**. In addition, the mounting leg **80** provided at the lower portion of the rear right end portion of the motor housing **34** is separated from the inverter housing **36** by the communication connector **58**. With this configuration, even when the mounting legs **80** are damaged by an external impact, this damage of the mounting legs **80** hardly affects the inverter housing **36**. As a result, it is suppressed that the inverter circuit **28**A or the like is affected by the damage of the mounting legs **80** to be damaged.
[0097] In this compressor **20**, the three mounting legs **80** formed on the housing **30**, the power supply connector **56**, the communication connector **58**, and the electric connecting member **60** are disposed within the circumscribed rectangular ER of the housing **30** as viewed in the axial direction, and these members do not protrude over the circumscribed rectangular ER. Accordingly, it is suppressed that the compressor **20** increases in size in the width direction of the inverter housing **36** and the height direction, which are orthogonal to the axial direction, by protruding portions of the mounting legs **80** and the other members over the circumscribed rectangular ER. In addition, it is suppressed that the mounting legs **80** and the other members are damaged in the axial direction and the width direction of the inverter housing **36** by an external impact.
[0098] In this compressor **20**, the air-tightness of the case **62** surrounding the hermetically sealed terminal **38** is ensured by the flat surface sealing portion formed of the first seal portion **62**C provided in the electric connecting member **60**, and the air-tightness around the extending portion through hole **48** of the inverter housing **36** is ensured by the cylindrical sealing portion formed of the second seal portion **62**D provided in the electric connecting member **60**. Accordingly, air-tightness of the inverter chamber **36**A and the motor chamber **34**A is easily ensured by the electric connecting member **60**.
[0099] In this compressor **20**, the inverter housing **36** is disposed on the outer peripheral surface side of the motor housing **34**, and the motor housing **34** and the inverter housing **36** are arranged in the radial direction. This suppresses that an axial length of the compressor **20** increases.
[0100] In this compressor **20**, the portion of the power supply connector **56** and the portion of the communication connector **58** are overlapped with the extending portion **36**B in the axial direction. Therefore, a length of the protruding portion in the axial direction over the extending portion **36**B in each of the power supply connector **56** and the communication connector **58** is shortened by the length of an overlapping portion with the extending portion **36**B in each of the power supply connector **56** and the communication connector **58**.
Second Embodiment
[0101] As illustrated in FIG. **13**, in a compressor **21** of the second embodiment, three mounting legs **88** or the like are formed on the outer surface of the housing **30**. In detail, one mounting leg **88** is formed integrally with the outer peripheral surface of the peripheral wall of the motor housing **34** and two mounting legs **88**, which are not illustrated, are formed integrally with an outer peripheral surface of a peripheral wall of a compression part housing.
[0102] The mounting leg **88** formed on the motor housing **34** is disposed in a lower end portion in a rear end portion of the motor housing **34**. The two mounting legs formed on the compression part housing are respectively disposed in an upper end portion and a lower end portion in a rear end portion of the compression part housing.
[0103] These mounting legs **88** or the like extend in parallel to each other in the left-right direction. In other words, the mounting legs **88** or the like extend in parallel to or substantially in parallel to the circuit board on which the inverter circuit **28**A is mounted. The mounting leg **88** formed on the

motor housing **34** extends in the left-right direction and has a thread insertion hole **88**A that is opened at both ends thereof. The two mounting legs **88** formed on the compression part housing each have a thread insertion hole, which is not illustrated, similar to the thread insertion hole **88**A.
[0104] Although not illustrated, each of the mounting legs **88** or the like is fixed to a corresponding mounting portion extending from the flow passage box **12** by a fastening member that is inserted through the thread insertion hole **88**A or the like.
[0105] As viewed in the axial direction, a lower half portion of the mounting leg **88** disposed in the lower end portion of the motor housing **34** of these mounting legs **88** or the like and a lower half portion of the mounting leg **88** disposed in the lower end portion of the compression part housing of these mounting legs **88** or the like protrude downward over the circumscribed rectangular ER of the housing **30**. On the other hand, an upper half portion of the mounting leg **88** disposed in the lower end portion of the motor housing **34**, an upper half portion of the mounting leg **88** disposed in the lower end portion of the compression part housing, and the mounting leg **88** disposed in the upper end portion of the compression part housing are disposed within the circumscribed rectangular ER of the housing **30**.
[0106] With this configuration, this compressor **21** is slightly larger in the up-down direction by a length of the lower half portion protruding over the circumscribed rectangular ER in the mounting legs **88** or the like disposed in the lower end portion of the housing **30** as compared with the compressor **20** of the first embodiment.
[0107] In addition, the mounting leg **88** disposed in the lower end portion of the motor housing **34** is separated from the inverter housing **36** by the electric connecting member **60**. With this configuration, even when the mounting leg **88** is damaged, this damage of the mounting leg **88** hardly affects the inverter housing **36**. As a result, it is suppressed that the inverter circuit **28**A or the like is affected by the damage of the mounting leg **88** to be damaged.
[0108] Other configurations and advantageous effects in the second embodiment are the same as those in the first embodiment.
[0109] Although the present disclosure has been described above based on the first and second embodiments, the present disclosure is not limited to the above-described first and second embodiments, and may be modified within the scope of the present disclosure.
[0110] For example, in the compressor **20** of the first embodiment, the rear end portion of the inverter housing **36** corresponds to the extending portion **36**B and the width of the extending portion **36**B in the left-right direction of the compressor **20** is equivalent to the width of the remained portion of the inverter housing **36** excluding the extending portion **36**B; however, the present disclosure is not limited thereto, and a shape and a size of the extending portion **36**B may be set as desired.
[0111] In the compressor **20** of the first embodiment, the rear end portion of the power supply connector **56** and the rear end portion of the communication connector **58** slightly protrude in the axial direction over the extending portion **36**B; however, the present disclosure is not limited thereto. For example, the compressor **20** of the first embodiment may have a configuration in which the high voltage connector does not protrude in the axial direction over the extending portion **36**B because the entire high voltage connector is overlapped with the extending portion **36**B in the axial direction or a configuration in which the lower voltage connector does not protrude in the axial direction over the extending portion **36**B because the entire low voltage connector is overlapped with the extending portion **36**B in the axial direction.
[0112] In the compressor **20** of the first embodiment, as viewed in the axial direction, the power supply connector **56** and the communication connector **58** are arranged in the width direction of the extending portion **36**B (the left-right direction of the compressor **20**); however, the present disclosure is not limited thereto. For example, as viewed in the axial direction, the high voltage connector and the low voltage connector may be arranged in the up-down direction of the compressor **20** (the direction orthogonal to or substantially orthogonal to the circuit board) within

the width of the extending portion **36**B.

[0113] In the compressor **20** of the first embodiment, the power supply cable **57**A is connected to the power supply connector **56** in the axial direction and the communication cable **59**A is connected to the communication connector **58** in the axial direction; however, the present disclosure is not limited thereto. For example, the high voltage cable may be moved in an upper direction of the compressor **20** (the direction orthogonal to or substantially orthogonal to the circuit board) and connected to the high voltage connector, and the low voltage cable may be moved in the upper direction of the compressor **20** (the direction orthogonal to or substantially orthogonal to the circuit board) and connected to the low voltage connector.

[0114] In the compressor **20** of the first embodiment, the power supply connector **56** and the communication connector **58** are provided on the outer bottom surface **36**C of the extending portion **36**B; however, the present disclosure in not limited thereto. For example, the high voltage connector or the low voltage connector may be provided on an end surface on the other side in the axial direction (a rear end surface) in the extending portion **36**B (inverter housing **36**).

[0115] In the compressor **20** of the first embodiment, the diameter of the opening of each of the receptacle terminals **66** into which the connection end portion **46** of the corresponding conductive pin **42** is inserted is the same as the diameter of the connecting end portion **46** of the conductive pin **42**; however, the present disclosure is not limited thereto. For example, the diameter of the opening of the receptacle terminal **66** may be larger than the diameter of the connecting end portion **46** of the conductive pin **42**. In this case, the position of each of the receptacle terminals **66** relative to the corresponding conductive pin **42** is further easily adjusted, which further improves the ease of the assembling of the electric compressor.

[0116] In the compressor **20** of the first embodiment, the base portion **62**A and the cover portion **62**B of the case **62** are made of resin; however, the present disclosure is not limited thereto. For example, the cover portion **62**B may be made of metal in order to block electromagnetic noise, or the like.

INDUSTRIAL APPLICABILITY

[0117] The present disclosure is applicable to an air conditioner for vehicles or the like.

Claims

1. An electric compressor comprising: a rotary shaft; a compression part that is driven by rotation of the rotary shaft to compress fluid; a motor that rotates the rotary shaft; an inverter that has an inverter circuit configured to drive the motor; and a housing in which the rotary shaft, the compression part, the motor, and the inverter are accommodated, the housing including: a motor housing that is formed in a bottomed tubular shape having a tubular peripheral wall extending in an axial direction of the rotary shaft and a bottom wall connected to an end of the peripheral wall and in which the motor is accommodated inside the peripheral wall; an inverter housing that is provided on the peripheral wall and in which the inverter is accommodated; a compression part housing that is formed in a bottomed tubular shape and provided opposite to the bottom wall across the motor and in which the compression part is accommodated; and a shaft support member that has an insertion hole through which the rotary shaft is inserted, the shaft support member being disposed between an opening of the motor housing and an opening of the compression part housing, the shaft support member rotatably supporting the rotary shaft, the shaft support member defining with the motor housing a motor chamber in which the motor is accommodated and defining with the compression part housing a compression part chamber in which the compression part is accommodated, the inverter housing having an extending portion extending in the axial direction relative to the bottom wall away from the peripheral wall, and the extending portion having: a high voltage connector through which a power from a high voltage power supply is supplied to the motor; and a low voltage connector through which a power smaller than the power supplied from the high voltage power supply is supplied to the inverter, wherein the high voltage connector and the low voltage connector are each overlapped with the bottom wall as viewed in the axial direction of the rotary shaft, and the high voltage connector and the low voltage connector are disposed within a width of the extending portion.

2. The electric compressor according to claim 1, wherein a conductive pin is provided in the motor housing, the conductive pin extending through the bottom wall and being electrically connected to the motor, the inverter housing has an extending portion through hole that is opened at the extending portion and in which an inverter terminal electrically connected to the inverter circuit is accommodated, an electric connecting member is provided between the bottom wall and an end of the extending portion in the axial direction and electrically connects the conductive pin to the inverter housing, the electric connecting member extending through the extending portion through hole, and the high voltage connector is disposed opposite to the low voltage connector across the electric connecting member as viewed in the axial direction.

3. The electric compressor according to claim 2, wherein the electric connecting member has a busbar formed in a plate shape, a first terminal that is provided on one end portion of the busbar and to which the conductive pin is connected outside the motor housing, and a second terminal that is provided on the other end portion of the busbar and to which the inverter terminal is connected inside the inverter housing, the first terminal is connected to the conductive pin in the axial direction, the second terminal is connected to the inverter terminal in the axial direction, a high voltage cable connector provided at one end of a high voltage cable through which the power from the high voltage power supply is supplied is connected to the high voltage connector in the axial direction, and a low voltage cable connector provided at one end of a low voltage cable through which the power from the low voltage power supply is supplied is connected to the low voltage connector in the axial direction.

4. The electric compressor according to claim 1, wherein a pair of mounting legs for mounting the motor housing to an object is formed on the peripheral wall, and as viewed in the axial direction, one of the mounting legs is located opposite to the inverter housing across the high voltage connector and the other of the mounting legs is located opposite to the inverter housing across the low voltage connector.