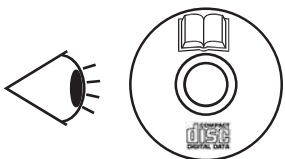


- EN INSTALLATION AND OPERATION MANUAL
- ES MANUAL DE INSTALACIÓN Y FUNCIONAMIENTO
- DE INSTALLATIONS- UND BETRIEBSHANDBUCH
- FR MANUEL D'INSTALLATION ET DE FONCTIONNEMENT
- IT MANUALE D'INSTALLAZIONE E D'USO
- PT MANUAL DE INSTALAÇÃO E DE FUNCIONAMENTO
- DA INSTALLATIONS- OG BETJENINGSVEJLEDNING
- NL INSTALLATIE- EN BEDIENINGSHANDLEIDING
- SV INSTALLATION- OCH DRIFTHANDBOK
- EL ΕΓΧΕΙΡΙΔΙΟ ΕΓΚΑΤΑΣΤΑΣΗΣ ΚΑΙ ΛΕΙΤΟΥΡΓΙΑΣ
- BG РЪКОВОДСТВО ЗА ИНСТАЛИРАНЕ И ЕКСПЛОАТАЦИЯ
- CS NÁVOD K MONTÁŽI A OBSLUZE
- ET PAIGALDUS- JA KASUTUSJUHEND
- HU TELEPÍTÉSI ÉS ÜZEMELTETÉSI ÚTMUTATÓ
- LV UZSTĀDĪŠANAS UN EKSPLOATĀCIJAS ROKASGRĀMATA
- LT MONTAVIMO IR NAUDOJIMO VADOVĀ
- PL INSTRUKCJA MONTAŻU I OBSŁUGI
- RO MANUAL DE INSTALARE SI OPERARE
- RU ИНСТРУКЦИЯ ПО МОНТАЖУ И ЭКСПЛУАТАЦИИ

## DX-Interface EXV-(2.0-10.0)E2





## **English**

Specifications in this manual are subject to change without notice in order that HITACHI may bring the latest innovations to their customers.

Whilst every effort is made to ensure that all specifications are correct, printing errors are beyond HITACHI's control; HITACHI cannot be held responsible for these errors.

## **Español**

Las especificaciones de este manual están sujetas a cambios sin previo aviso a fin de que HITACHI pueda ofrecer las últimas innovaciones a sus clientes.

A pesar de que se hacen todos los esfuerzos posibles para asegurarse de que las especificaciones sean correctas, los errores de impresión están fuera del control de HITACHI, a quien no se hará responsable de ellos.

## **Deutsch**

Bei den technischen Angaben in diesem Handbuch sind Änderungen vorbehalten, damit HITACHI seinen Kunden die jeweils neuesten Innovationen präsentieren kann.

Sämtliche Anstrengungen wurden unternommen, um sicherzustellen, dass alle technischen Informationen ohne Fehler veröffentlicht worden sind. Für Druckfehler kann HITACHI jedoch keine Verantwortung übernehmen, da sie außerhalb ihrer Kontrolle liegen.

## **Français**

Les caractéristiques publiées dans ce manuel peuvent être modifiées sans préavis, HITACHI souhaitant pouvoir toujours offrir à ses clients les dernières innovations.

Bien que tous les efforts sont faits pour assurer l'exactitude des caractéristiques, les erreurs d'impression sont hors du contrôle de HITACHI qui ne pourrait en être tenu responsable.

## **Italiano**

Le specifiche di questo manuale sono soggette a modifica senza preavviso affinché HITACHI possa offrire ai propri clienti le ultime novità.

Sebbene sia stata posta la massima cura nel garantire la correttezza dei dati, HITACHI non è responsabile per eventuali errori di stampa che esulano dal proprio controllo.

## **Português**

As especificações apresentadas neste manual estão sujeitas a alterações sem aviso prévio, de modo a que a HITACHI possa oferecer aos seus clientes, da forma mais expedita possível, as inovações mais recentes.

Apesar de serem feitos todos os esforços para assegurar que todas as especificações apresentadas são correctas, quaisquer erros de impressão estão fora do controlo da HITACHI, que não pode ser responsabilizada por estes erros eventuais.

## **Dansk**

Specifikationerne i denne vejledning kan ændres uden varsel, for at HITACHI kan bringe de nyeste innovationer ud til kunderne.

På trods af alle anstrengelser for at sikre at alle specifikationerne er korrekte, har HITACHI ikke kontrol over trykfejl, og HITACHI kan ikke holdes ansvarlig herfor.

## **Nederlands**

De specificaties in deze handleiding kunnen worden gewijzigd zonder verdere kennisgeving zodat HITACHI zijn klanten kan voorzien van de nieuwste innovaties.

Iedere poging wordt ondernomen om te zorgen dat alle specificaties juist zijn. Voorkomende drukfouten kunnen echter niet door HITACHI worden gecontroleerd, waardoor HITACHI niet aansprakelijk kan worden gesteld voor deze fouten.

## **Svenska**

Specifikationerna i den här handboken kan ändras utan föregående meddelande för att HITACHI ska kunna leverera de senaste innovationerna till kunderna.

Vi på HITACHI gör allt vi kan för att se till att alla specifikationer stämmer, men vi har ingen kontroll över tryckfel och kan därför inte hållas ansvariga för den typen av fel.

## **Ελληνικά**

Οι προδιαγραφές του εγχειριδίου μπορούν να αλλάξουν χωρίς προειδοποίηση, προκειμένου η HITACHI να παρέχει τις τελευταίες καινοτομίες στους πελάτες της.

Αν και έχει γίνει κάθε προσπάθεια προκειμένου να εξασφαλιστεί ότι οι προδιαγραφές είναι σωστές, η HITACHI δεν μπορεί να ελέγξει τα τυπογραφικά λάθη και, ως εκ τούτου, δεν φέρει καμία ευθύνη για αυτά τα λάθη.

## **Български**

Спецификациите в това ръководство подлежат на изменения без известяване, така че HITACHI да може да предоставя на своите клиенти последните иновации.

Полагат се всички усилия, за да се гарантира, че всички спецификации са коректни, но печатните грешки са извън обсега на контрола на HITACHI и HITACHI не може да носи отговорност за тези грешки.

## **Čeština**

Aby společnost HITACHI mohla svým zákazníkům poskytovat nejnovější inovace, specifikace uvedené v této příručce podléhají změnám bez předchozího upozornění.

Přestože vynakládáme maximální úsilí, aby všechny specifikace byly správné, tiskové chyby nespádají pod kontrolu společnosti HITACHI, která za takové chyby nenese odpovědnost.

## **Eesti**

Käesoleva juhendi tehnilised kirjeldused võivad muutuda ilma ette teatamiseta, selleks et HITACHI saaks tuua oma klientideni kõige uuemad innovatsioonid.

Kuigi püütakse tagada, et kõik tehnilised kirjeldused oleksid õiged, on trükivead väljaspool HITACHI kontrolli; HITACHI ei vastuta nende vigade eest.

## **Magyar**

Az alábbi kézikönyvben foglalt előírások előzetes értesítés nélkül változhatnak, annak érdekében, hogy a HITACHI a legfrissebb újításokkal szolgálhasson ügyfelei számára.

Bár minden erőfeszítést megteszünk annak érdekében, hogy minden előírás helyes legyen, a nyomtatási hibák nem állnak a HITACHI ellenőrzése alatt; ezekért a hibákért a HITACHI nem tehető felelőssé.

## **Latviešu**

Šīs rokasgrāmatas specifikācijas var mainīties bez brīdinājuma, lai HITACHI varētu saviem klientiem piedāvāt jaunākās inovācijas.

Lai gan tiek pieliktas visas pūles, nodrošinot, ka visas specifikācijas ir pareizas, drukāšanas kļūdas ir ārpus HITACHI kontroles; HITACHI nevar būt atbildīga par šīm kļūdām.

## **Lietuvių**

Šio vadovo specifikacijos gali būti keičiamos be įspėjimo, kad „HITACHI“ galėtų pateikti savo klientams paskutines naujoves.

Nors dedamos visos pastangos siekiant užtikrinti, kad visos specifikacijos būtų teisingos, „HITACHI“ nekontroliuoja spausdinimo klaidų; „HITACHI“ negali būti laikoma atsakinga už tokias klaidas.

## **Polski**

Zamieszczone w niniejszej instrukcji obsługi dane techniczne mogą ulec zmianie bez uprzedniego powiadomienia ze względu na innowacyjne rozwiązania, jakie firma HITACHI nieustannie wprowadza z myślą o swoich klientach.

Mimo podejmowanych starań, aby zapewnić poprawność wszystkich podanych tutaj informacji, nie można wykluczyć zaistnienia błędów drukarskich, za które firma HITACHI nie ponosi żadnej odpowiedzialności.

## **Română**

Specificațiile din acest manual pot fi modificate fără notificare prealabilă, pentru ca HITACHI să poată pune la dispoziția clienților noștri ultimele inovații.

Deși depunem toate eforturile pentru a ne asigura că toate specificațiile sunt corecte, erorile de tipărire depășesc controlul HITACHI; HITACHI nu poate fi tras la răspundere pentru aceste erori.

## **Русский**

Технические характеристики, содержащиеся в данном руководстве, могут быть изменены HITACHI без предварительного уведомления, по причине постоянного внедрения последних инноваций.

Несмотря на то, что мы принимаем все возможные меры для актуализации технических данных, при публикации возможны ошибки, которые HITACHI не может контролировать, и за которые не несет ответственности.





## CAUTION

This product shall not be mixed with general house waste at the end of its life and it shall be retired according to the appropriated local or national regulations in a environmentally correct way.

Due to the refrigerant, oil and other components contained in Air Conditioner, its dismantling must be done by a professional installer according to the applicable regulations. Contact to the corresponding authorities for more information.

## PRECAUCIÓN

Este producto no se debe eliminar con la basura doméstica al final de su vida útil y se debe desechar de manera respetuosa con el medio ambiente de acuerdo con los reglamentos locales o nacionales aplicables.

Debido al refrigerante, el aceite y otros componentes contenidos en el sistema de aire acondicionado, su desmontaje debe realizarlo un instalador profesional de acuerdo con la normativa aplicable. Para obtener más información, póngase en contacto con las autoridades competentes.

## VORSICHT

Dass Ihr Produkt am Ende seiner Betriebsdauer nicht in den allgemeinen Hausmüll geworfen werden darf, sondern entsprechend den geltenden örtlichen und nationalen Bestimmungen auf umweltfreundliche Weise entsorgt werden muss.

Aufgrund des Kältemittels, des Öls und anderer in der Klimaanlage enthaltener Komponenten muss die Demontage von einem Fachmann entsprechend den geltenden Vorschriften durchgeführt werden. Für weitere Informationen setzen Sie sich bitte mit den entsprechenden Behörden in Verbindung.

## ADVERTISSEMENT

Ne doit pas être mélangé aux ordures ménagères ordinaires à la fin de sa vie utile et qu'il doit être éliminé conformément à la réglementation locale ou nationale, dans le plus strict respect de l'environnement.

En raison du frigorigène, de l'huile et des autres composants que le climatiseur contient, son démontage doit être réalisé par un installateur professionnel conformément aux réglementations en vigueur.

## AVVERTENZE

Indicazioni per il corretto smaltimento del prodotto ai sensi della Direttiva Europea 2011/65/EU e D Lgs 4 marzo 2014 n.27

Il simbolo del cassonetto barrato riportato sull'apparecchiatura indica che il prodotto alla fine della propria vita utile deve essere raccolto separatamente dagli altri rifiuti.

L'utente dovrà, pertanto, conferire l'apparecchiatura giunta a fine vita agli idonei centri di raccolta differenziata dei rifiuti elettronici ed elettrotecnici, oppure riconsegnarla al rivenditore al momento dell'acquisto di una nuova apparecchiatura di tipo equivalente.

L'adeguata raccolta differenziata delle apparecchiature dismesse, per il loro avvio al riciclaggio, al trattamento ed allo smaltimento ambientalmente compatibile, contribuisce ad evitare possibili effetti negativi sull'ambiente e sulla salute e favorisce il riciclo dei materiali di cui è composta l'apparecchiatura. Non tentate di smontare il sistema o l'unità da soli poiché ciò potrebbe causare effetti dannosi sulla vostra salute o sull'ambiente. Vogliate contattare l'installatore, il rivenditore, o le autorità locali per ulteriori informazioni.

Lo smaltimento abusivo del prodotto da parte dell'utente può comportare l'applicazione delle sanzioni amministrative di cui all'articolo 50 e seguenti del D.Lgs. n. 22/1997.

## CUIDADO

O seu produto não deve ser misturado com os desperdícios domésticos de carácter geral no final da sua duração e que deve ser eliminado de acordo com os regulamentos locais ou nacionais adequados de uma forma correcta para o meio ambiente.

Devido ao refrigerante, ao óleo e a outros componentes contidos no Ar condicionado, a desmontagem deve ser realizada por um instalador profissional de acordo com os regulamentos aplicáveis. Contacte as autoridades correspondentes para obter mais informações.

## ADVASEL!

At produktet ikke må smides ud sammen med almindeligt husholdningsaffald, men skal bortskaffes i overensstemmelse med de gældende lokale eller nationale regler på en miljømæssig korrekt måde.

Da klimaanlægget indeholder kølemiddel, olie samt andre komponenter, skal afmontering foretages af en fagmand i overensstemmelse med de gældende bestemmelser.

Kontakt de pågældende myndigheder for at få yderligere oplysninger.

## VOORZICHTIG

Dit houdt in dat uw product niet wordt gemengd met gewoon huisvuil wanneer u het weg doet en dat het wordt gescheiden op een milieuvriendelijke manier volgens de geldige plaatselijke en landelijke reguleringen.

Vanwege het koelmiddel, de olie en andere onderdelen in de airconditioner moet het apparaat volgens de geldige regulering door een professionele installateur uit elkaar gehaald worden. Neem contact op met de betreffende overheidsdienst voor meer informatie.

## FÖRSIKTIGHET

Det innebär att produkten inte ska slängas tillsammans med vanligt hushållsavfall utan kasseras på ett miljövänligt sätt i enlighet med gällande lokal eller nationell lagstiftning.

Luftkonditioneringsaggregatet innehåller kylmedium, olja och andra komponenter, vilket gör att det måste demonteras av en fackman i enlighet med tillämpliga regelverk.

Ta kontakt med ansvarig myndighet om du vill ha mer information.

## ΠΡΟΣΟΧΗ

Σημαίνει ότι το προϊόν δεν θα πρέπει να αναμιχθεί με τα διάφορα οικιακά απορρίμματα στο τέλος του κύκλου ζωής του και θα πρέπει να αποσυρθεί σύμφωνα με τους κατάλληλους τοπικούς ή εθνικούς κανονισμούς και με τρόπο φιλικό προς το περιβάλλον.

Λόγω του ψυκτικού, του λαδιού και άλλων στοιχείων που περιέχονται στο κλιματιστικό, η αποσυναρμολόγησή του πρέπει να γίνει από επαγγελματία τεχνικό και σύμφωνα με τους ισχύοντες κανονισμούς.

Για περισσότερες λεπτομέρειες, επικοινωνήστε με τις αντίστοιχες αρχές.

## ВНИМАНИЕ

В края на своя технологичен живот този продукт не бива да се изхвърля заедно с общите битови отпадъци и трябва да се третира съгласно приетите местни или национални подзаконовни нормативни актове по правилен от гледна точка на опазване на околната среда начин. Поради охладителя, маслото и останалите компоненти, съдържащи се в климатика, разглобяването му задължително се извършва от професионален техник съгласно приложимите подзаконовни нормативни актове. За повече информация се свържете със съответните органи.

## POZOR

Tento výrobek nesmí být na konci své životnosti likvidován v rámci běžného komunálního odpadu, nýbrž ekologickým způsobem v souladu s příslušnými místními nebo vnitrostátními předpisy. Vzhledem k chladivu, oleji a dalším komponentům obsaženým v klimatizačním zařízení musí jeho demontáž provádět odborný instalatér v souladu s platnými předpisy. Více informací lze získat od příslušných orgánů.

## HOIATUS

Seda toodeti ei tohi kasutusea lõpus ära visata üldiste olmejäätmete hulka ja see tuleb kõrvaldada kooskõlas asjaomaste kohalike või riiklike eeskirjadega vastavalt keskkonnanõuetele. Kuna õhukonditsioneer sisaldab jahutusvedelikku, õli ja muid komponente, tohib seda lahti võtta ainult paigaldusspetsialist vastavuses kohaldatavate eeskirjadega. Lisateabe saamiseks võtta ühendust vastavate ametiasutustega.

## FIGYELMEZTETÉS

Élettartama végén a termék az általános háztartási hulladékkal nem keverendő; ártalmatlanítását a vonatkozó helyi vagy nemzeti előírásoknak megfelelően, környezetvédelmi szempontból helyesen kell végezni. A légkondicionálóban található hűtőközeg, olaj és egyéb anyagok miatt ennek szétszerelését a vonatkozó előírásoknak megfelelően, szakembernek kell végeznie. További információért forduljon az illetékes hatósághoz.

## UZMANĪBA

Pēc produkta lietošanas beigām to nedrīkst jaukt ar vispārējiem mājsaimniecības atkritumiem, un saskaņā ar attiecīgajiem vietējiem vai nacionālajiem noteikumiem tas jālikvidē videi draudzīgā veidā. Sakarā ar dzesējošo vielu, eļļu un citām sastāvdaļām, kas atrodas gaisa kondicionētājā, tā demontāža, saskaņā ar piemērojamiem noteikumiem, jāveic profesionālam uzstādītājam. Sazinieties ar attiecīgajām iestādēm, lai saņemtu plašāku informāciju.

## ĮSPĖJIMAS

Pasibaigus eksploatacijos laikui, šis produktas neturi būti maišomas su buitinėmis atliekomis ir turi būti išmetamas laikantis aplinkosaugos požiūriu tinkamų vietinių ar nacionalinių reglamentų. Dėl aušinimo medžiagos, alyvos ir kitų komponentų, esančių oro kondicionieriuje, jo išmontavimą turi atlikti profesionalus montuotojas pagal galiojančias taisykles. Norėdami gauti daugiau informacijos, susisiekite su atitinkamomis institucijomis.

## OSTROŻNIE

Po zakończeniu okresu użytkowania produktu, nie należy go wyrzucać z odpadami komunalnymi, lecz dokonać jego usunięcia w sposób ekologiczny zgodnie z obowiązującymi w tym zakresie przepisami prawa lokalnego lub krajowego. Ponieważ klimatyzatory zawierają czynniki chłodnicze i oleje oraz innego rodzaju elementy składowe, ich demontaż należy powierzyć wskazanemu w obowiązujących przepisach specjalistycznemu podmiotowi. Szczegółowe informacje na ten temat można uzyskać, kontaktując się z właściwymi organami władzy samorządowej.

## PRECAUȚIE

Acest produs nu trebuie aruncat la gunoii menajer la sfârșitul duratei sale de viață, ci trebuie scos din uz în conformitate cu reglementările locale sau naționale adecvate și într-un mod corect din punct de vedere al protecției mediului. Datorită agentului frigorific, a uleiului și a altor componente ale aparatului de aer condiționat, demontarea acestuia trebuie făcută de un instalator profesionist în conformitate cu reglementările aplicabile. Contactați autoritățile competente pentru mai multe informații.

## ПРЕДУПРЕЖДЕНИЕ

Этот продукт не должен утилизироваться вместе с обычными бытовыми отходами по истечению срока службы, а сдан в экологические пункты сбора в соответствии с местными или национальными нормами. Из-за хладагента, масла и других компонентов, содержащихся в кондиционере, его демонтаж должен выполняться профессиональным установщиком в соответствии с действующими правилами. Для получения дополнительной информации свяжитесь с соответствующими органами.



## English

Following Regulation EU No. 517/2014 on Certain Fluorinated Greenhouse gases, it is mandatory to fill in the label attached to the unit with the total amount of refrigerant charged on the installation.

Do not vent R410A into the atmosphere: R410A are fluorinated greenhouse gases covered by the Kyoto protocol global warming potential (GWP) R410A = 2088.

Tn of CO<sub>2</sub> equivalent of fluorinated greenhouse gases contained is calculated by indicated GWP \* Total Charge (in kg) indicated in the product label and divided by 1000.

## Español

De acuerdo con el reglamento UE N° 517/2014 sobre determinados gases fluorados de efecto invernadero, es obligatorio rellenar la etiqueta suministrada con la unidad con la cantidad total de refrigerante con que se ha cargado la instalación.

No descargue el R410A en la atmósfera: R410A son gases fluorados cubiertos por el protocolo de Kyoto con un potencial de calentamiento global (GWP) = 2088.

Las Tn de CO<sub>2</sub> equivalente de gases fluorados de efecto invernadero contenidos se calcula por el PCA indicado \* Carga Total (en kg) indicada en la etiqueta del producto y dividida por 1000.

## Deutsch

Folgende Verordnung EG Nr. 517/2014 Bestimmte fluorierte Treibhausgase, auf dem Schild, das sich am Gerät befindet, muss die Gesamtkältemittelmenge verzeichnet sein, die bei der Installation eingefüllt wird.

Lassen sie R410A nicht in die luft entweichen: R410A sind fluorierte treibhausgase, die durch das Kyoto-protokoll erfasst sind. Sie besitzen folgendes treibhauspotential (GWP) R410A = 2088.

Die Menge an CO<sub>2</sub>-Äquivalent fluorierte Treibhausgase enthalten (in Tn) wird von GWP \* die auf dem Produktetikett angegebenen Gesamtfüllmenge (in kg) und durch 1000 geteilt berechnet.

## Français

En fonction de la Réglementation CE N° 517/2014 concernant certains gaz à effet de serre fluorés, il est obligatoire de remplir l'étiquette attachée à l'unité en indiquant la quantité de fluide frigorigène qui a été chargée à l'installation.

Ne laissez pas le R410A se répandre dans l'atmosphère: le R410A sont des gaz à effet de serre fluorés, couverts par le protocole de Kyoto avec un potentiel de réchauffement global (PRG) R410A = 2088.

Les Tn d'équivalent-CO<sub>2</sub> de gaz à effet de serre fluorés contenus est calculé par le PRG \* Charge Totale (en kg) indiquée dans l'étiquette du produit et divisé par 1,000.

## Italiano

In base alla Normativa EC N° 517/2014 su determinati gas fluorurati ad effetto serra, è obbligatorio compilare l'etichetta che si trova sull'unità inserendo la quantità totale di refrigerante caricato nell'installazione.

Non scaricare R410A nell'atmosfera: R410A sono gas fluorurati ad effetto serra che in base al protocollo di Kyoto presentano un potenziale riscaldamento globale (GWP) R410A = 2088.

Le Tn di CO<sub>2</sub> equivalente di gas fluorurati ad effetto serra contenuti si calcola dal GWP indicato \* Carica Totale (in kg) indicato nella etichetta del prodotto e diviso per 1000.

## Português

Em conformidade com a Regulamentação da UE N° 517/2014 sobre determinados gases fluorados com efeito de estufa, é obrigatório preencher a etiqueta afixada na unidade com a quantidade total de refrigerante carregada na instalação.

Não ventilar R410A para a atmosfera: o R410A são gases fluorados com efeito de estufa abrangidos pelo potencial de aquecimento global (GWP) do protocolo de Quioto = 2088.

Tn de CO<sub>2</sub> equivalente de gases fluorados com efeito de estufa é calculado pelo GWP indicado \* Carga Total (em kg) indicado no rótulo de produto e dividido por 1000.

## Dansk

Henhold til Rådets forordning (EF) nr. 517/2014 om visse fluorholdige drivhusgasser, skal installationens samlede mængde kølevæske fremgå af den etiket, der er klæbet fast på enheden.

Slip ikke R410A ud i atmosfæren: R410A er fluorholdige drivhus-gasser, der er omfattet af Kyoto-protokollens globale opvarmningspotentiale (GWP) R410A = 2088.

Tn af CO<sub>2</sub>-ækvivalent af fluorholdige drivhusgasser er beregnet ved angivet GWP \* Samlet Charge (i kg) er angivet i produktets etiket og divideret med 1000.

## Nederlands

Conform richtlijn EC N° 517/2014 voor bepaalde fluorbroeikasgassen, dient u de tabel in te vullen op de unit met het totale koelmiddelvolume in de installatie. Laat geen R410A ontsnappen in de atmosfeer: R410A zijn fluorbroeikasgassen die vallen onder het protocol van Kyoto inzake klimaatverandering global warming potential (GWP) R410A = 2088.

Tn van CO<sub>2</sub>-equivalent van fluorbroeikasgassen wordt berekend door het aangegeven GWP \* Totale Hoeveelheid (in kg) aangegeven in het product label en gedeeld door 1000.

## Svenska

Enligt reglering EC N° 517/2014 om vissa fluorhaltiga växthusgaser, måste etiketten som sitter på enheten fyllas i med sammanlagd mängd kylmedium som fyllts på under installationen.

Släpp inte ur R410A i atmosfären: R410A är fluorhaltiga växthus-gaser som omfattas av Kyotoprotokollet om global uppvärmnings-potential (GWP) R410A = 2088.

Tn av CO<sub>2</sub>-ekvivalenter fluorhaltiga växthusgaser beräknas genom indikeras GWP \* Total Påfyllning (i kg) som anges i produktetiketten och divideras med 1000.

## Ελληνικά

Σύμφωνα με τον Κανονισμό 517/2014/EK για για ορισμένα φθοριούχα αέρια θερμοκηπίου, είναι υποχρεωτική η συμπλήρωση της επισήμανσης που επισυνάπτεται στη μονάδα με το συνολικό ποσό ψυκτικού που εισήχθη κατά την εγκατάσταση.

Μην απελευθερώνετε R410A στην ατμόσφαιρα. Τα R410A είναι φθοριούχα αέρια του θερμοκηπίου που εμπίπτουν στο πρωτοκόλλο του κυστο δυναμικό θέρμανσης του πλανήτη (GWP) R410A = 2088.

Τη ισοδύναμου CO<sub>2</sub> φθοριούχων αερίων θερμοκηπίου που περιέχονται υπολογίζεται από υποδεικνύεται GWP \* Συνολική πλήρωση (σε kg) που αναφέρεται στην ετικέτα του προϊόντος και χωρίζονται από το 1000.

## **Български**

В съответствие с Регламент ЕС № 517/2014 за флуорсъдържащите парникови газове, е задължително да се попълни етикетът, закрепен за изделието, където да фигурира общото количество охлаждащ агент, зареден в инсталацията.

Забранено е изпускането на R410A в атмосферата: R410A представлява флуорсъдържащи парникови газове, които са в обхвата на Протокола от Киото относно потенциалното глобално затопляне (GWP) R410A = 2088.

Tn на CO<sub>2</sub> еквивалент на флуорсъдържащи парникови газове, съдържащи се в посочения GWP \* Общо заредено количество (в kg), посочено в етикета на изделието и разделено на 1000.

## **Čeština**

Podle nařízení EU č. 517/2014 o některých fluorovaných skleníkových plynech je povinné vyplnit štítek připojený k jednotce s celkovým množstvím chladiva naplněného v zařízení.

Neventilujte R410A do atmosféry: R410A jsou fluorované skleníkové plyny, na něž se vztahuje potenciál globálního oteplování v rámci Kjótského protokolu (GWP) R410A = 2088.

Tn ekvivalentu CO<sub>2</sub> obsaženého ve fluorovaných skleníkových plynech se vypočítá podle udávaného GWP \* Celkové naplnění (v kg) uvedené na štítku výrobku a vydělené 1000.

## **Eesti**

Vastavalt määrusele EL nr 517/2014 teatavate fluoritud kasvuhoonegaaside kohta on kohustuslik märkida seadmele paigaldatud etiketile kogu süsteemi laaditud jahutusvedeliku kogus.

Ärge juhutage R410A-d atmosfääri: R410A on Kyoto protokollis reguleeritud globaalse soojenemise potentsiaaliga fluoritud kasvuhoonegaasid (GWP) R410A = 2088.

Fluoritud kasvuhoonegaaside sisaldus CO<sub>2</sub>-ekvivalenti tonnides arvutatakse korrutades märgitud GWP toote etiketil märgitud kogu seadmesse laaditud kogusega (kg) jagatuna 1000-ga.

## **Magyar**

Az fluortartalmú üvegházhatású gázokról szóló 517/2014/EU rendelet értelmében az egységhez mellékelt címkén kötelező jelleggel fel kell tüntetni a berendezésbe töltött hűtőközeg összmenyiségét.

Kerülje el az R410A hűtőközeg légkörbe jutását: Az R410A hűtőközeg üvegházhatású gázokból áll, amelyekre a Kyotói Jegyzőkönyv globális felmelegedési potenciálja érvényes. (GWP) R410A = 2088.

A fluorozott üveghatású gázoknak megfelelő CO<sub>2</sub> mennyisége a feltüntetett GWP \*-vel kiszámítva. A termék címkéjén feltüntetett teljes feltöltött mennyiség (kg-ban) 1000- rel osztva.

## **Latviešu**

Saskaņā ar ES Regulu Nr. 517/2014 par dažām fluorētām siltumnīcas efektu izraisošām gāzēm, obligāti jāaizpilda ierīcei pievienotā etiķete ar kopējo uzpildīto uzstādīto dzesējošās vielas daudzumu.

Nelaidiet R410A atmosfērā: R410A ir fluorētas siltumnīcefekta gāzes, uz kurām attiecas Kioto protokola globālās sasilšanas potenciāls (GWP) R410A = 2088. Ietverto fluorētu siltumnīcefektu izraisošo gāzu CO<sub>2</sub> ekvivalents Tn tiek aprēķināts, GWP \* kopējā uzpilde (kg), kas norādīta produkta etiķetē, dalot ar 1000.

## **Lietuvių**

Pagal ES Nr. 517/2014 reglamentą dėl tam tikrų fluorintų šiltnamio efektą sukeliančių dujų, įrenginio etiketėje privaloma užpildyti bendrą aušinimo medžiagos, pripildytos montavimo metu, kiekį.

Neišleiskite R410A į atmosferą: R410A yra fluorintos šiltnamio efektą sukeliančios dujos, kurias numato Kioto protokolo globalinio klimato atšilimo potencialas (GWP) R410A = 2088.

Turimų fluorintų šiltnamio efektą sukeliančių dujų CO<sub>2</sub> ekvivalento Tn apskaičiuojamas: nurodytas GWP \* produkto etiketėje nurodytas bendras užpildymas (kg) padalintas iš 1000.

## **Polski**

Zgodnie z Rozporządzeniem UE nr 517/2014 w sprawie fluorowanych gazów cieplarnianych, wymagane jest podanie na etykiecie informacyjnej umieszczonej na klimatyzatorze ilości czynnika chłodniczego wprowadzanego do obiegu instalacji klimatyzacyjnej.

Nie należy uwalniać czynnika chłodniczego R410A do atmosfery: w jego skład wchodzi uwzględnione w protokole z Kioto fluorowane gazy cieplarniane o potencjalnym wpływie na globalne ocieplenie (GWP), R410A = 2088.

W celu obliczenia wyrażonej równoważnikiem CO<sub>2</sub> ilości fluorowanych gazów cieplarnianych (w tonach), mnożymy podaną wartość GWP przez wskazaną na etykiecie całkowitą masę gazu w instalacji (w kg) i uzyskany wynik dzielimy przez 1000.

## **Română**

În conformitate cu Regulamentul UE 517/2014 privind anumite gaze fluorurate cu efect de seră, este obligatorie completarea etichetei atașate la unitate cu cantitatea totală de agent frigorific încărcat în instalație.

Nu evacuați R410A în atmosferă: R410A sunt gaze fluorurate cu efect de seră care cad sub incidența potențialului de încălzire globală al Protocolului de la Kyoto (GWP) R410A = 2088.

Tonajul echivalent CO<sub>2</sub> al gazelor fluorurate cu efect de seră conținute se calculează prin indicarea GWP \* Cantitate totală (în kg) indicată în eticheta produsului și împărțită la 1000.

## **Русский**

Постановление ЕС № 517/2014 о некоторых фторсодержащих парниковых газах требует указать количество хладагента, содержащегося в агрегате, на специальной этикетке, которая наклеивается на корпус аппарата.

Запрещено выпускать R410A в атмосферу: R410A - это фторсодержащие парниковые газы, на которых распространяется действие Киотского протокола. (GWP) R410A = 2088.

Tn CO<sub>2</sub>, эквивалентного фторсодержащих парниковых газов рассчитывается путем указанного ПГП \* Общую загрузку (в кг), указанную на этикетке продукта, и разделенное на 1000.

## INDEX

- 1 GENERAL INFORMATION
- 2 SAFETY
- 3 SYSTEM DESCRIPTION
- 4 PRODUCT GUIDE
- 5 NAME OF PARTS
- 6 UNIT INSTALLATION
- 7 REFRIGERANT PIPING AND CHARGE
- 8 ELECTRICAL WIRING
- 9 MUTIPLE DX-INTERFACE SERIES 2 INSTALLATION
- 10 REMOTE CONTROL PC-ARFPE
- 11 OPTIONAL FUNCTIONS
- 12 THERMISTOR SELECTION
- 13 DX-INTERFACE ALARM CODES

## ÍNDICE

- 1 INFORMACIÓN GENERAL
- 2 SEGURIDAD
- 3 DESCRIPCIÓN DEL SISTEMA
- 4 GUÍA DEL PRODUCTO
- 5 NOMBRE DE LOS COMPONENTES
- 6 INSTALACIÓN DE LA UNIDAD
- 7 TUBERÍA Y CARGA DE REFRIGERANTE
- 8 CABLEADO ELÉCTRICO
- 9 INSTALACIÓN DE VARIAS INTERVACES DX SERIE 2
- 10 MANDO A DISTANCIA PC-ARFPE
- 11 FUNCIONES OPCIONALES
- 12 SELECCIÓN DEL TERMISTOR
- 13 CÓDIGOS DE ALARMA DE LA INTERFAZ DX

## INHALTSVERZEICHNIS

- 1 ALLGEMEINE INFORMATIONEN
- 2 SICHERHEIT
- 3 SYSTEMBESCHREIBUNG
- 4 PRODUKTÜBERSICHT
- 5 TEILEBEZEICHNUNG
- 6 GERÄTEINSTALLATION
- 7 KÄLTEMITTELLEITUNG UND -MENGE
- 8 KABELANSCHLUSS
- 9 INSTALLATION DER MULTIPLEX-DX-SCHNITTSTELLE SERIE 2
- 10 FERNBEDIENUNG PC-ARFPE
- 11 OPTIONALE FUNKTIONEN
- 12 THERMISTOR-AUSWAHL
- 13 ALARMCODES FÜR DX-SCHNITTSTELLE

## INDEX

- 1 INFORMATIONS GÉNÉRALES
- 2 SÉCURITÉ
- 3 DESCRIPTION DU SYSTÈME
- 4 GUIDE DU PRODUIT
- 5 NOMENCLATURE DES PIÈCES
- 6 INSTALLATION DES UNITÉS
- 7 TUYAUTERIE FRIGORIFIQUE ET CHARGE DE FRIGORIGÈNE
- 8 CÂBLAGE ÉLECTRIQUE
- 9 INSTALLATION DE PLUSIEURS INTERFACES-DX SÉRIE 2
- 10 TÉLÉCOMMANDE PC-ARFPE
- 11 FONCTIONS OPTIONNELLES
- 12 SÉLECTION DE LA THERMISTANCE
- 13 CODES D'ALARME DE L'INTERFACE-DX

## INDICE

- 1 INFORMAZIONI GENERALI
- 2 SICUREZZA
- 3 DESCRIZIONE DEL SISTEMA
- 4 GUIDA DEI PRODOTTI
- 5 NOME DEI COMPONENTI
- 6 INSTALLAZIONE DELL'UNITÀ
- 7 LINEA E CARICA DI REFRIGERANTE
- 8 COLLEGAMENTO DELLO SCHEMA ELETTRICO
- 9 INSTALLAZIONE MULTIPLA DELL'INTERFACCIA-DX SERIE 2
- 10 CONTROLLO REMOTO PC-ARFPE
- 11 FUNZIONI OPZIONALI
- 12 SELEZIONE TERMISTORE
- 13 CODICI DI ALLARME DELL'INTERFACCIA-DX

## ÍNDICE

- 1 INFORMAÇÃO GERAL
- 2 SEGURANÇA
- 3 DESCRIÇÃO DO SISTEMA
- 4 GUIA DO PRODUTO
- 5 NOME DAS PEÇAS
- 6 INSTALAÇÃO DA UNIDADE
- 7 TUBAGEM E CARGA DE REFRIGERANTE
- 8 LIGAÇÕES ELÉTRICAS
- 9 INSTALAÇÃO DE VÁRIAS INTERFACE DX SÉRIE 2
- 10 CONTROLO REMOTO PC-ARFPE
- 11 FUNÇÕES OPCIONAIS
- 12 SELEÇÃO DE TERMISTOR
- 13 CÓDIGOS DE ALARME DA INTERFACE DX

## INDHOLDSFORTEGNELSE

- 1 GENEREL INFORMATION
- 2 SIKKERHED
- 3 SYSTEMBESKRIVELSE
- 4 PRODUKTVEJLEDNING
- 5 NAVN PÅ DELE
- 6 MONTERING AF ENHED
- 7 KØLERØR OG PÅFYLDNING AF KØLEMIDDEL
- 8 ELEKTRISK LEDNINGSFØRING
- 9 INSTALLATION AF ADSKILLIGE DX-INTERFACES SERIE 2
- 10 FJERNBETJENING PC-ARFPE
- 11 VALGFRIE FUNKTIONER
- 12 VALG AF TERMISTOR
- 13 DX-INTERFACE ALARMKODER

## INHOUDSOPGAVE

- 1 ALGEMENE INFORMATIE
- 2 VEILIGHEID
- 3 BESCHRIJVING VAN HET SYSTEEM
- 4 PRODUCTGIDS
- 5 NAMEN VAN ONDERDELEN
- 6 INSTALLATIE VAN DE UNIT
- 7 KOELMIDDELLEIDINGEN EN KOELMIDDELVOLUME
- 8 ELEKTRISCHE BEDRADING
- 9 MEERDERE DX-INTERFACES REEKS 2 INSTALLEREN
- 10 AFSTANDSBEDIENING PC-ARFPE
- 11 OPTIONELE FUNCTIES
- 12 THERMISTOR SELECTEREN
- 13 ALARMCODES DX-INTERFACE



## INNEHÅLLSFÖRTECKNING

- 1 ALLMÄN INFORMATION
- 2 SÄKERHET
- 3 SYSTEMÖVERSIKT
- 4 PRODUKTGUIDE
- 5 DELARNAS NAMN
- 6 INSTALLATION AV ENHET
- 7 KYLRÖR OCH PÅFYLLNING
- 8 ELEKTRISK ANSLUTNING
- 9 INSTALLATION AV FLERA DX-GRÄNSSNITT AV SERIE 2
- 10 FJÄRRKONTROLL PC-ARFPE
- 11 EXTRA FUNKTIONER
- 12 VAL AV TERMISTOR
- 13 DX-GRÄNSSNITT LARMKODER

## ΕΥΡΕΤΗΡΙΟ

- 1 ΓΕΝΙΚΕΣ ΠΛΗΡΟΦΟΡΙΕΣ
- 2 ΑΣΦΑΛΕΙΑ
- 3 ΠΕΡΙΓΡΑΦΗ ΤΟΥ ΣΥΣΤΗΜΑΤΟΣ
- 4 ΟΔΗΓΟΣ ΠΡΟΪΟΝΤΟΣ
- 5 ΟΝΟΜΑΤΑ ΕΞΑΡΤΗΜΑΤΩΝ
- 6 ΕΓΚΑΤΑΣΤΑΣΗ ΜΟΝΑΔΩΝ
- 7 ΣΩΛΗΝΩΣΕΙΣ ΚΑΙ ΠΛΗΡΩΣΗ ΜΕ ΨΥΚΤΙΚΟ
- 8 ΗΛΕΚΤΡΙΚΗ ΚΑΛΩΔΙΩΣΗ
- 9 ΕΓΚΑΤΑΣΤΑΣΗ ΠΟΛΛΩΝ ΔΙΕΠΑΦΩΝ DX ΤΗΣ ΣΕΙΡΑΣ 2
- 10 ΤΗΛΕΧΕΙΡΙΣΤΗΡΙΟ PC-ARFPE
- 11 ΠΡΟΑΙΡΕΤΙΚΕΣ ΛΕΙΤΟΥΡΓΙΕΣ
- 12 ΕΠΙΛΟΓΗ ΘΕΡΜΙΣΤΟΡ
- 13 ΚΩΔΙΚΟΙ ΠΡΟΕΙΔΟΠΟΙΗΣΗΣ ΤΗΣ ΔΙΕΠΑΦΗΣ DX

## ИНДЕКС

- 1 ОБЩА ИНФОРМАЦИЯ
- 2 БЕЗОПАСНОСТ
- 3 ОПИСАНИЕ НА СИСТЕМАТА
- 4 НАРЪЧНИК ЗА ПРОДУКТА
- 5 НАЗВАНИЯ НА ЧАСТИТЕ
- 6 МОНТАЖ НА ИЗДЕЛИЕТО
- 7 ТРЪБИ ЗА ХЛАДИЛНИЈА АГЕНТ И ХЛАДИЛЕН ЗАРЯД
- 8 ЕЛЕКТРИЧЕСКО ОКАБЕЛЯВАНЕ
- 9 МОНТАЖ НА НЯКОЛКО DX- ИНТЕРФЕЙСА СЕРИЈА 2
- 10 ДИСТАНЦИОННО УПРАВЛЕНИЕ PC-ARFPE
- 11 ДОПЪЛНИТЕЛНИ ФУНКЦИИ
- 12 ИЗБОР НА ТЕРМИСТОР
- 13 ΚΟΔΟΒΕ ЗА ΑΛΑΡΜΑΤΑ НА DX-ИНТЕРФЕЙСА

## OBSAH

- 1 OBECNÉ INFORMACE
- 2 BEZPEČNOST
- 3 POPIS SYSTÉMU
- 4 NÁVOD K POUŽITÍ
- 5 NÁZVY DÍLŮ
- 6 INSTALACE JEDNOTKY
- 7 CHLADICÍ POTRUBÍ A PLNĚNÍ
- 8 ELEKTRICKÉ VEDENÍ
- 9 INSTALACE MULTI DX ROZHRANÍ SÉRIE 2
- 10 DÁLKOVÉHO OVLÁDÁNÍ PC-ARFPE
- 11 VOLITELNÉ FUNKCE
- 12 VÝBĚR TERMISTORU
- 13 KÓDY ALARMU DX ROZHRANÍ

## INDEKS

- 1 ÜLDTEAVE
- 2 OHUTUS
- 3 SÜSTEEMI KIRJELDUS
- 4 TOOTEJUHEND
- 5 OSADE NIMED
- 6 SEADME PAIGALDAMINE
- 7 JAHUTUSTORUSTIK JA JAHUTUSVAHENDIGA TÄITMINE
- 8 ELEKTRIÜHENDUSED
- 9 MITME DX-LIIDESE SEERIAS 2 PAIGALDAMINE
- 10 KAUGJUHTIMISPLOKK PC-ARFPE
- 11 VALIKFUNKTSIOONID
- 12 TERMISTORI VALIMINE
- 13 DX-LIIDESE ALARMKOODID

## TARTALOMJEGYZÉK

- 1 ÁLTALÁNOS INFORMÁCIÓK
- 2 BIZTONSÁG
- 3 A RENDSZER LEÍRÁSA
- 4 TERMÉKISMERTETŐ
- 5 RÉSZEK NEVE
- 6 AZ EGYSÉG TELEPÍTÉSE
- 7 HŰTŐKÖZEG CSŐVEZETÉKE ÉS BETÖLTÉSE
- 8 ELEKTROMOS KÁBELEZÉS
- 9 TÖBBSZÖRÖS 2. SZOROZATÚ DX-INTERFÉSZ TELEPÍTÉSE
- 10 PC-ARFPE TÁVVEZÉRLŐ
- 11 OPCIONÁLIS FUNKCIÓK
- 12 TERMISZTOR KIVÁLASZTÁSA
- 13 DX-INTERFÉSZ RIASZTÁSI KÓDOK

## INDEKSS

- 1 VISPĀRĪGA INFORMĀCIJA
- 2 DROŠĪBA
- 3 SISTĒMAS APRAKSTS
- 4 PRODUKTU CEĻVEDIS
- 5 DETAĻU NOSAUKUMS
- 6 IERĪCES UZSTĀDĪŠANA
- 7 DZESĒTĀJVIELAS CAURULE UN UZPILDE
- 8 ELEKTROINSTALĀCIJA
- 9 VAIRĀKU 2. SĒRIJAS DX-INTERFEISU UZSTĀDĪŠANA
- 10 TĀLVADĪBAS PULTS PC-ARFPE
- 11 PAPILDU FUNKCIJAS
- 12 TERMISTORA ATĻASE
- 13 DX-INTERFEISA TRAUKSMES SIGNĀLU KODI

## INDEKSAS

- 1 BENDROJI INFORMACIJA
- 2 SAUGUMAS
- 3 SISTEMOS APRAŠYMAS
- 4 PRODUKTO VADOVAS
- 5 DALIŲ PAVADINIMAI
- 6 ELEMENTO MONTAVIMAS
- 7 AUŠINIMO VAMZDŽIAI IR UŽPILDYMAS
- 8 ELEKTROS LAIDAI
- 9 KELIŲ 2 SERIJOS „DX-INTERFACE“ MONTAVIMAS
- 10 NUOTOLINIS VALDYMAS PC-ARFPE
- 11 PASIRINKTINĖS FUNKCIJOS
- 12 TERMISTORIAUS PARINKIMAS
- 13 „DX-INTERFACE“ ĮSPĖJAMIEJI KODAI

## SPIS TREŚCI

- 1 INFORMACJE OGÓLNE
- 2 BEZPIECZEŃSTWO
- 3 OPIS INSTALACJI
- 4 OPIS PRODUKTU
- 5 CZĘŚCI SKŁADOWE
- 6 MONTAŻ URZĄDZENIA
- 7 PRZEWODY OBIEGU CZYNNIKA CHŁODNICZEGO I JEGO NAPEŁNIANIE
- 8 POŁĄCZENIA ELEKTRYCZNE
- 9 INSTALACJA WYPOSAŻONA W SZEREG INTERFEJSÓW DX SERII 2
- 10 ZDALNY STEROWNIK PC-ARFPE
- 11 FUNKCJE OPCJONALNE
- 12 WYBÓR TERMISTORA (THERMISTOR SELECTION)
- 13 KODY ALARMÓW INTERFEJSU DX

## INDICE

- 1 INFORMAȚII GENERALE
- 2 SIGURANȚĂ
- 3 DESCRIEREA SISTEMULUI
- 4 GHIDUL PRODUSULUI
- 5 DENUMIREA COMPONENTELOR
- 6 INSTALAREA UNITĂȚII
- 7 CONDUCTA ȘI UMLEREA CU AGENT FRIGORIFIC
- 8 CABLAJUL ELECTRIC
- 9 INSTALAREA MULTIPLĂ A INTERFEȚEI DX SERIA 2
- 10 TELECOMANDĂ PC-ARFPE
- 11 FUNCȚII OPȚIONALE
- 12 SELECTAREA TERMISTORULUI
- 13 CODURI DE ALARMĂ ALE INTERFEȚEI DX

## ОГЛАВЛЕНИЕ

- 1 ОБЩАЯ ИНФОРМАЦИЯ
- 2 БЕЗОПАСНОСТЬ
- 3 ОПИСАНИЕ СИСТЕМЫ
- 4 КРАТКОЕ ОПИСАНИЕ ИЗДЕЛИЯ
- 5 НАЗВАНИЕ ДЕТАЛЕЙ
- 6 УСТАНОВКА БЛОКА
- 7 ТРУБОПРОВОД И ЗАПРАВКА ХЛАДАГЕНТА
- 8 ЭЛЕКТРОПРОВОДКА
- 9 УСТАНОВКА НЕСКОЛЬКИХ DX-ИНТЕРФЕЙСОВ СЕРИИ 2
- 10 ПУЛЬТ ДИСТАНЦИОННОГО УПРАВЛЕНИЯ PC-ARFPE
- 11 ОПЦИОНАЛЬНЫЕ ФУНКЦИИ
- 12 ВЫБОР ТЕРМИСТОРА
- 13 КОДЫ АВАРИЙНОЙ СИГНАЛИЗАЦИИ DX-ИНТЕРФЕЙСА

EN	English	Original Version
ES	Español	Versión traducida
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FR	Français	Version traduite
IT	Italiano	Versione tradotta
PT	Português	Versão traduzida
DA	Dansk	Oversat version
NL	Nederlands	Vertaalde versie
SV	Svenska	Översatt version
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LV	Latviešu	Tulkotā versija
LT	Lietuvių	Versta versija
PL	Polski	Tłumaczenie wersji oryginalnej
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# 1 GENERAL INFORMATION

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As a result, some of the images or data used to illustrate this document may not refer to specific models. No claims will be accepted based on the data, illustrations and descriptions included in this manual.

No type of modification must be made to the equipment without prior, written authorisation from the manufacturer.

## 2 SAFETY

### 2.1 APPLIED SYMBOLS

During normal air conditioning system design work or unit installation, greater attention must be paid in certain situations requiring particular care in order to avoid damage to the unit, the installation or the building or property.

Situations that jeopardise the safety of those in the surrounding area or that put the unit itself at risk will be clearly indicated in this manual.

To indicate these situations, a series of special symbols will be used to clearly identify these situations.

Pay close attention to these symbols and to the messages following them, as your safety and that of others depends on it.

#### DANGER

- *The text following this symbol contains information and instructions relating directly to your safety and physical wellbeing.*
- *Not taking these instructions into account could lead to serious, very serious or even fatal injuries to you and others in the proximities of the unit.*

In the texts following the danger symbol you can also find information on safe procedures during unit installation.

#### CAUTION

- *The text following this symbol contains information and instructions relating directly to your safety and physical wellbeing.*
- *Not taking these instructions into account could lead to minor injuries to you and others in the proximities of the unit.*
- *Not taking these instructions into account could lead to unit damage.*

In the texts following the caution symbol you can also find information on safe procedures during unit installation.

#### NOTE

- *The text following this symbol contains information or instructions that may be of use or that require a more thorough explanation.*
- *Instructions regarding inspections to be made on unit parts or systems may also be included.*

## 2.2 ADDITIONAL INFORMATION ABOUT SAFETY

### DANGER

- *HITACHI is not able to foresee all the circumstances which may result in a potential danger.*
- *Do not pour water in the indoor or outdoor unit. These products are fitted with electric components. If water comes into contact with electric components, this will cause a serious electric shock.*
- *Do not handle or adjust the safety devices inside the indoor and outdoor units. The handling or adjustment of these devices may result in serious accident.*
- *Do not open the service cover or access panel of the indoor and outdoor units without disconnecting the main supply.*
- *In the event of fire, switch off the mains, put out the fire immediately and contact your service supplier.*
- *Check that the earth cable is correctly connected.*
- *Connect the unit to a circuit breaker of the specified capacity.*
- *Use the correct refrigerant. The DX-Interface unit is for exclusive use with the non-flammable R410A refrigerant. Please avoid that foreign substances other than R410A become mixed. If another refrigerant, or flammable substances such as air, oxygen, propane, etc, become mixed, it may be the cause of explosion, fire or injuries.*

### CAUTION

- *Refrigerant leaks may hinder respiration as the gas displaces the air in the room.*
- *Fit the indoor unit, the outdoor unit, the remote control and the cable at a minimum of 3 metres away from sources of strong radiation from electromagnetic waves, such as medical equipment.*
- *Do not use sprays, such as insecticides, varnishes or enamels or any other inflammable gas within a metre of the system.*
- *If the circuit breaker or supply fuse of the unit comes on frequently, stop the system and contact the service supplier.*
- *Do not carry out maintenance or inspection work yourself. This work must be carried out by qualified service personnel with suitable tools and resources for the work.*
- *Do not place any foreign material (branches, sticks, etc.) in the air inlet or outlet of the unit. These units are fitted with high speed fans and contact with any object is dangerous.*
- *This appliance must be used only by adult and capable people, having received the technical information or instructions to handle this appliance properly and safely.*
- *Children should be supervised to ensure that they do not play with the appliance.*

### NOTE

- *The air in the room should be renewed and the room ventilated every 3 or 4 hours.*
- *The system fitter and specialist shall provide anti-leak safety in accordance with local regulations.*

## 2.3 PURPOSE OF THIS MANUAL

This device has been designed for standard air conditioning for human beings. For use in other applications, please contact your HITACHI dealer or service contractor.

The air conditioning system should only be installed by qualified personnel, with the necessary resources, tools and equipment, who are familiar with the safety procedures required to successfully carry out the installation.

### **PLEASE READ AND FAMILIARISE YOURSELF WITH THE MANUAL BEFORE STARTING WORK ON THE INSTALLATION OF THE AIR CONDITIONING SYSTEM.**

Failure to observe the instructions for installation, use and operation described in this Manual may result in operating failure including potentially serious faults, or even the destruction of the air conditioning system.

It is assumed that the air conditioning system will be installed and maintained by responsible personnel trained for the purpose. If this is not the case, the customer should include all the safety, caution and operating signs in the native language of the personnel responsible.

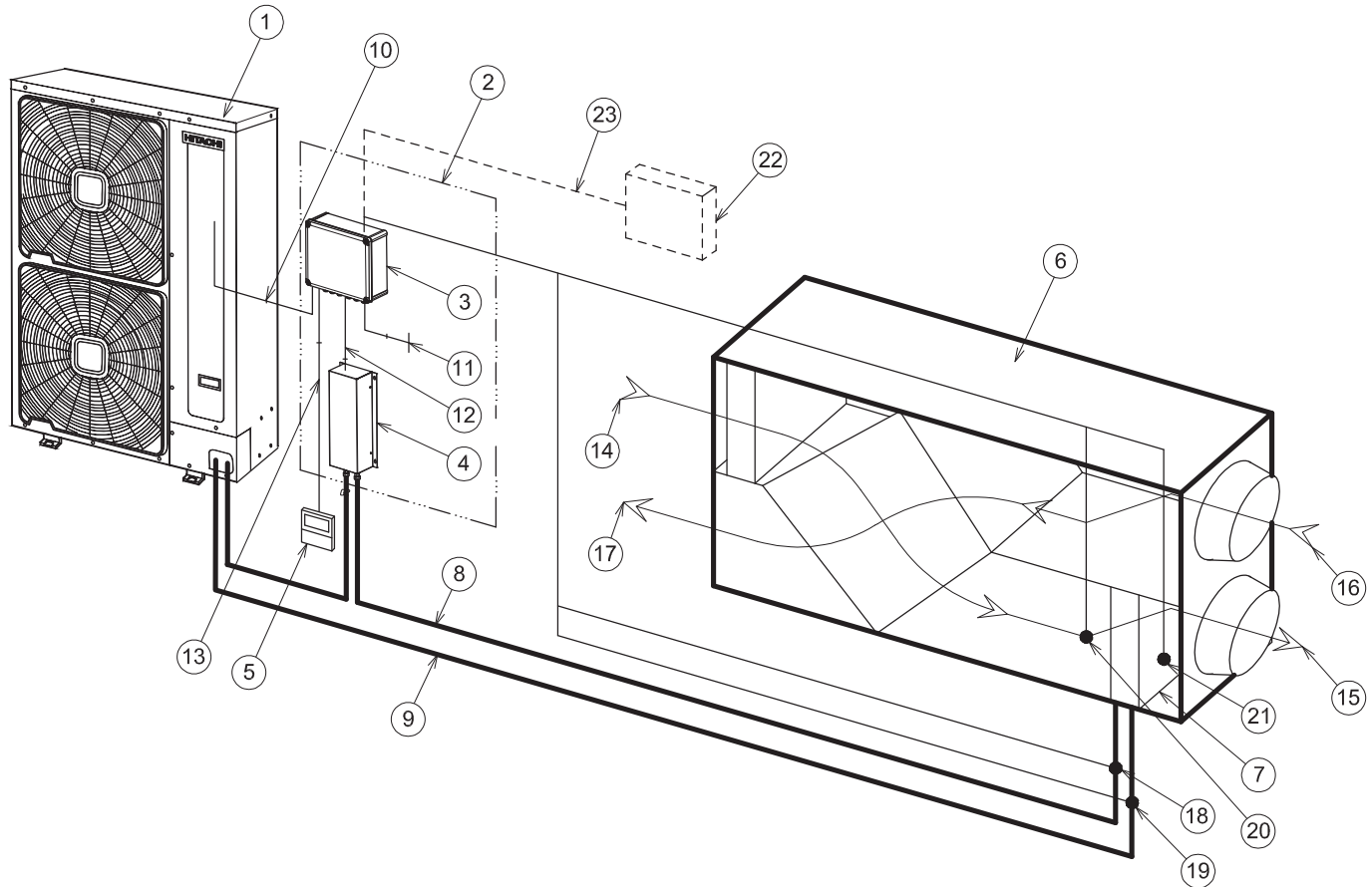
Do not install the unit in the following places, as this may lead to a fire, deformities, rusting or faults:

- Places where oil is present (including oil for machinery).
- Places with a high concentration of sulphurous gas, such as spas.
- Places where flammable gases may be generated or circulate.
- Places with a saline, acidic or alkaline atmosphere.

Do not install the unit in a place where the current of expelled air directly affects animals or plants as they could be adversely affected.

### 3 SYSTEM DESCRIPTION

The following figure shows an installation example for air handling units (AHU).



N°	Description
1	HITACHI outdoor unit
2	DX-Interface EXV-(2.0-10.0)E2
3	Control box
4	Expansion valve box
5	Remote controller (Optional)
6	Unit or device with heat exchanger
7	DX- heat exchanger
8	Liquid line
9	Gas line
10	Outdoor - Indoor communication
11	Power supply
12	Expansion valve control communication

N°	Description
13	Remote controller communication
14	Outdoor air (AHU applications)
15	Supply air (AHU applications)
16	Return air (AHU applications)
17	Exhaust air (AHU applications)
18	Liquid pipe thermistor (THM3, PCB1)
19	Gas pipe thermistor (THM5, PCB1)
20	Inlet DX-coil thermistor (THM1, PCB1)
21	Outlet DX-coil thermistor (THM2, PCB1)
22	Field supplied controller (Optional)
23	Duty signal (0~10V, 0~5V, 4~20mA) (Optional)

#### ⚠ CAUTION

- The installation distance between the DX-Interface and the device with heat exchanger must be the shortest possible.
- Keep the distance between the unit or device with heat exchanger and the expansion valve box for the piping length up to 5m. Also the elevation difference between the unit or device with heat exchanger and the expansion valve box must be no more than 2m.
- Make sure that the installation distance between the control box and the unit or device with heat exchanger is short enough that the thermistors sensing are not distorted.
- The thermistor cable should never be installed in the same ducting as power or control cables.

## 4 PRODUCT GUIDE

### 4.1 CLASSIFICATION OF DX-INTERFACE

DX-Interface type				
Position-separating hyphen (fixed)				
Capacity (HP): 2.0, 2.5, 3.0, 4.0, 5.0, 6.0, 8.0, 10.0				
E = Made in Europe				
New serie				
EXV	-	X.X	E	2

### 4.2 PRODUCT GUIDE CODIFICATION



DX-Interface	
Model	Code
EXV-2.0E2	7E610900
EXV-2.5E2	7E610901
EXV-3.0E2	7E610902
EXV-4.0E2	7E610903
EXV-5.0E2	7E610904
EXV-6.0E2	7E610905
EXV-8.0E2	7E610906
EXV-10.0E2	7E610907

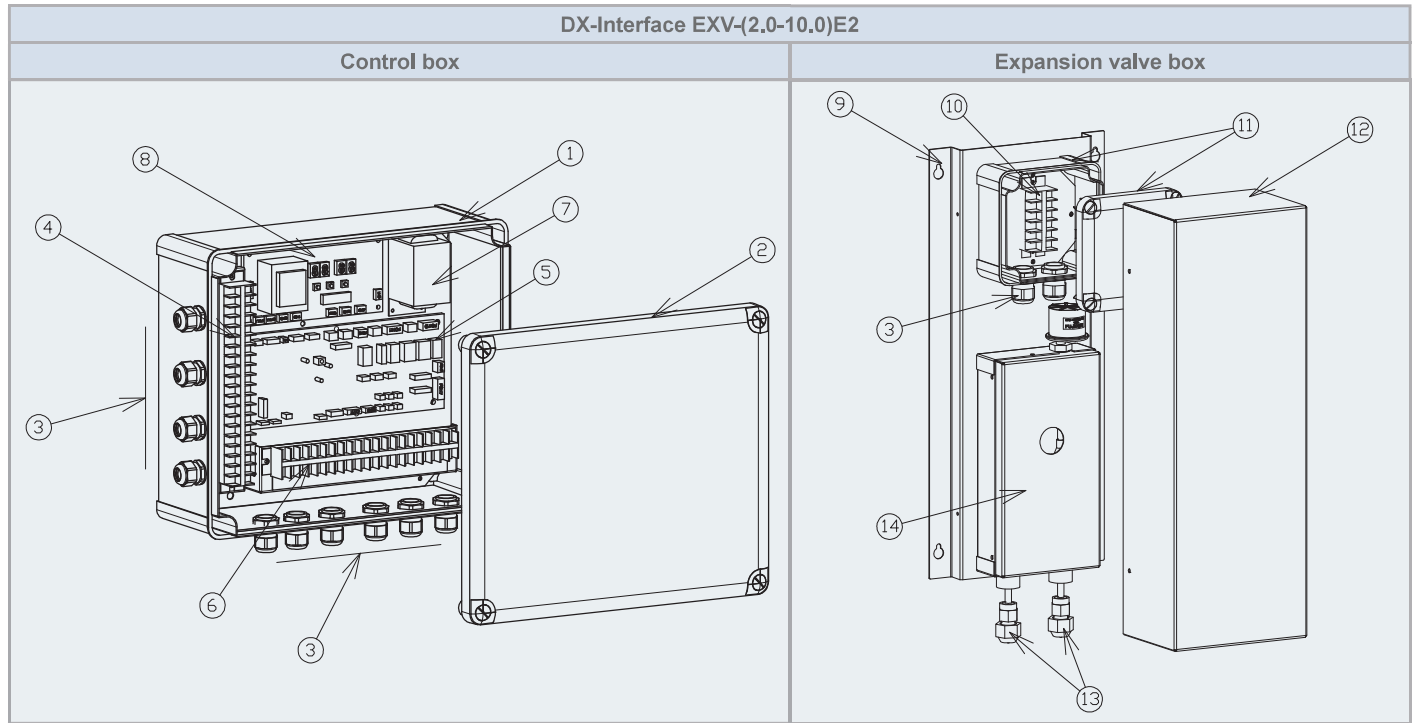
### 4.3 FACTORY-SUPPLIED

Check the content and the number of accessories in the package. The package contains the following parts:

Name description	See in figure	Qty	Purpose
Control box		1	System control box
Expansion valve box		1	Expansion valve for refrigerant cycle control
Thermistor		4	Temperature sensing: inlet air (blue) outlet air (red) gas line (yellow) liquid line (black)

Name description	See in figure	Qty	Purpose
Thermistor extension (5 m)		4	To extend thermistor length: inlet air (blue) outlet air (red) gas line (yellow) liquid line (black)
Installation Manual and Declaration of Conformity		1	Instructions and important notice
Control box fixing accessory		4	Control box cover lock
Harness jumper		1	Motor alarm connection jumper

## 5 NAME OF PARTS



N°	Name	N°	Name
1	Control box	8	PCB2
2	Control box cover	9	Expansion valve box
3	Cable gland	10	Terminal board 3
4	Terminal board 1	11	Terminal board box and cover
5	PCB1	12	Expansion valve box cover
6	Terminal board 2	13	Refrigerant connections
7	Transformer	14	Expansion valve device

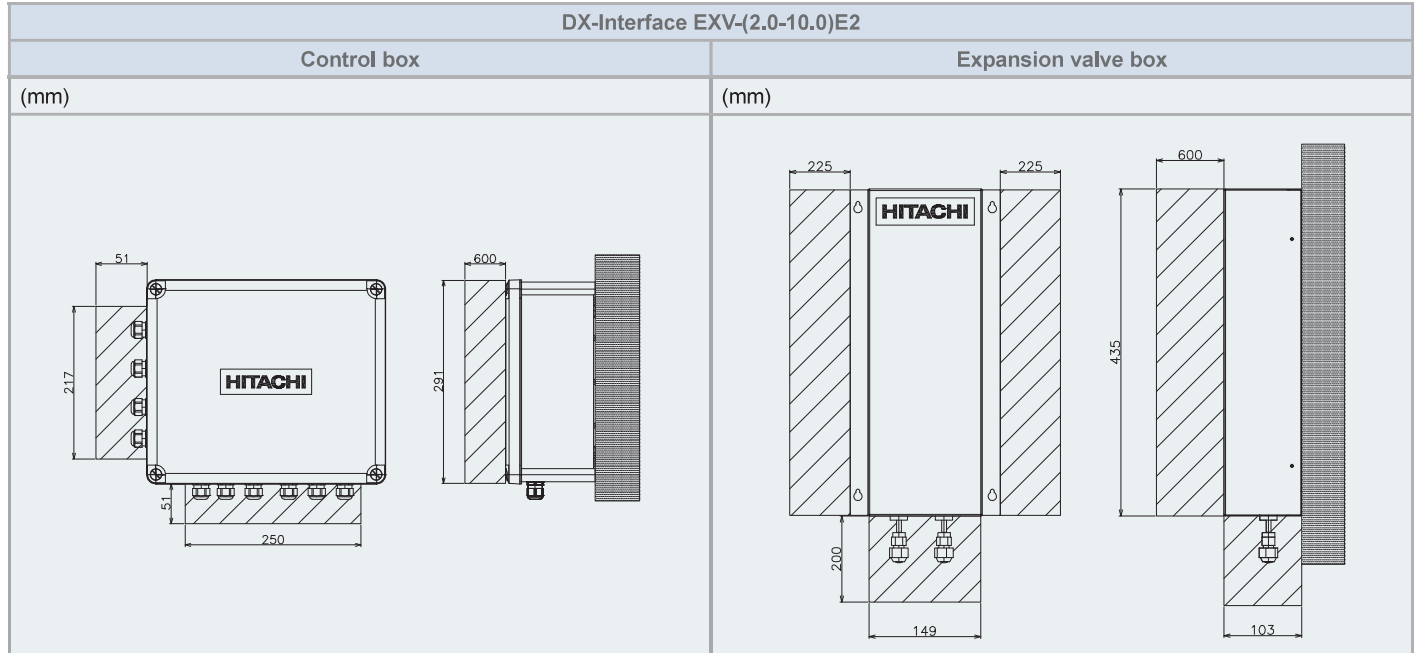
## 6 UNIT INSTALLATION

- A dedicated remote controller must be installed for the execution of commissioning works. This remote controller can be removed once commissioning is finished. In this case, pay attention to all the inputs and outputs related with operation without remote control, since detailed settings cannot be changed after removing the remote control switch. (some systems need a remote controller permanently).
  - Do not install the DX-Interface where electromagnetic wave is directly radiated to the control box or expansion valve box.
  - Install a noise filter when noise is emitted from power supply.
  - Do not install the DX-Interface where generation, flowing, staying or leakage of flammable gas may occur.
  - When the false ceiling contains high humidity, dew condensation water may occur on the outer surface of the expansion valve box. Therefore utilize the insulation on the outer surface of the expansion valve box.
- ◆ **Installation Location**
- 1 Installation methods are selectable according to the dimension of the false ceiling.
  - 2 Keep the distance between the unit or device with heat exchanger and the expansion valve box for the piping length up to 5m. Also the elevation difference between the unit or device with heat exchanger and the expansion valve box must be no more than 2m.
  - 3 Check the ceiling slab is strong enough. If the ceiling slab is too weak to support the weight of the expansion valve box, noise and vibration may occur.
  - 4 Secure proper space around the control box and expansion valve box for operation and maintenance work. Also a service access door should be prepared in order to remove the DX-Interface without getting rid of the ceiling plate.
  - 5 Select a suitable and convenient location for the refrigerant piping connection.
  - 6 Do not install the DX-Interface in a kitchen where vapor or mist flows. Dew condensation water may occur on the expansion valve box while cooling operation. In this case, utilize the insulation.
  - 7 Do not install the DX-Interface in a organic solvent (thinner or benzine) environment. Synthetic resin parts may dissolve.
  - 8 Do not install the DX-Interface where generation, flowing or staying of flammable gas may occur.
  - 9 The sound of refrigerant running through from the expansion valve box may be heard. Therefore install the expansion valve box where the sound will not leak such as in the false ceiling of a hall way.
  - 10 Use ceiling material with sound-proof such as plaster board.

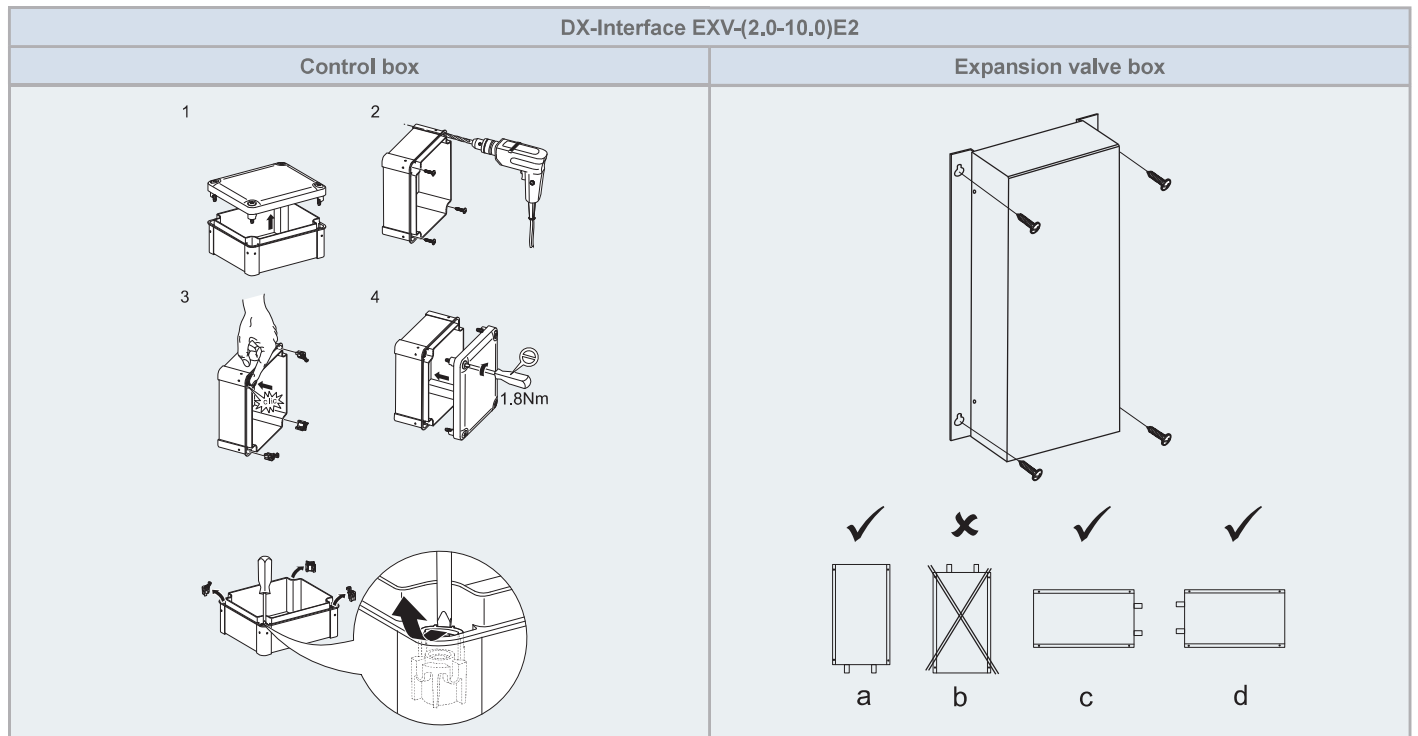
### 6.1 DIMENSIONAL DATA

DX-Interface EXV-(2.0-10.0)E2	
Control box	Expansion valve box
(mm)	(mm)
(*) For installation	

## 6.2 SERVICE SPACE



## 6.3 MOUNTING METHOD



**i** **NOTE**

- Special nuts used for control box cover lock (step 3 in Control box mounting method) are supplied with the DX-Interface.
- In case of installation positions “c” and “d” (for Expansion valve box mounting method), make sure to insulate the copper pipes inlet on the expansion valve box cover to avoid any liquid filtration and accumulation.



## 6.4 THERMISTOR INSTALLATION

### ◆ Liquid and gas pipes thermistors

Two type thermistors are supplied inside the control box. The purpose and identification of each one is as follow:

Item	PCB socket / Thermistor connector color	PCB socket number	Thermistor length (mm)
Liquid pipe thermistor	Black	THM 3	650
Gas pipe thermistor	Yellow	THM 5	600

### ⚠ CAUTION

In case that the thermistors supplied with the DX-Interface are not long enough, please make sure that the length extension is properly done avoiding the sensing distortion and that the joint is properly insulated to avoid any electrical failure.

### i NOTE

When fitting the thermistors, remember that they must be secured correctly by the special clamp, ensuring the perfect contact between the pipe and thermistor. Cover it completely with insulation, like cork tape or pipe insulation, depending on the location. Replace them if damaged during maintenance work.

### Thermistor installation example

1	Liquid / gas pipe thermistor (factory supplied)	
2	Thermistor holder (field supplied)	
3	Thermistor lead wire (field supplied)	
4	Insulation (field supplied)	

### ⚠ CAUTION

The thermistor must be installed properly in order to avoid water onto the thermistor.

### Typical installation location

A	Liquid pipe thermistor	Must be installed in the coldest liquid line point in the heat exchanger (prior the distributor).	
B	Gas pipe thermistor	Must be installed as close as possible to the heat exchanger refrigerant outlet.	

### ◆ Air thermistor

Two air thermistors are supplied inside the control box. The purpose and identification of each one is as follow:

Item	PCB socket / Thermistor connector color	PCB socket number	Thermistor length (mm)
Inlet air thermistor	Blue	THM 1	1200
Outlet air thermistor	Red	THM 2	1200

### ⚠ CAUTION

In case that the thermistors supplied with the DX-Interface are not long enough, please make sure that the length extension is properly done avoiding the sensing distortion and that the joint is properly insulated to avoid any electrical failure.

### i NOTE

When fitting the air thermistor, remember that they must be secure correctly, in an adequate place to avoid external influences, like ambient conditions, and where the air temperature is significant.

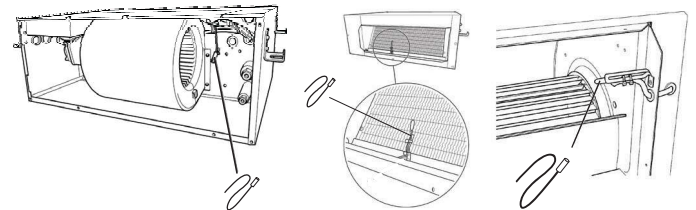
### Cable clamp example

1	Tie (Field supplied)	
2	Cable clamp (Field supplied)	
3	Thermistor (supplied)	

### ⚠ CAUTION

The thermistor must be installed properly in order to avoid water onto the thermistor.

### Typical installation

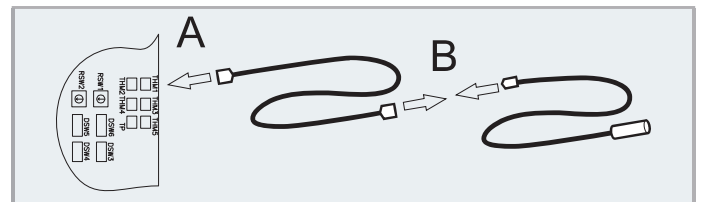


In case of modular outdoor unit installation, it is possible to install air thermistors only to the DX-Interface set as "group controller". The thermistors locations must ensure then a proper reading of the air temperature, representative of the total inlet or outlet air flows of the unit to be controlled.

### i NOTE

In case of simplified air thermistors installation, only one Remote Controller can be connected within the DX-Interface grouped together and connected to the same indoor unit (the installations of a second remote controller is allowed only if it is set as "slave").

### ◆ Thermistor extension installation



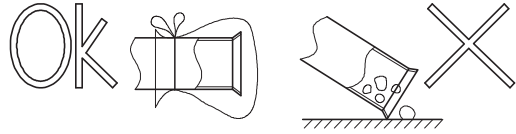
A		B	
PCB socket	Thermistor extension	Thermistor extension	Thermistor
THM1	Blue	Blue	Blue
THM2	Red	Red	Red
THM3	Black	Black	Black
THM5	Yellow	Yellow	Yellow



## 7 REFRIGERANT PIPING AND CHARGE

### 7.1 GENERAL NOTES BEFORE PERFORMING PIPE WORK

- 1 Prepare locally-supplied copper pipes.
- 2 Select the piping size with the correct thickness and correct material able to withstand sufficient pressure.
- 3 Select clean copper pipes. Make sure that there is no dust or moisture inside the pipes. Blow the inside of the pipes with oxygen free nitrogen to remove any dust and foreign materials before connecting them.



If piping installation is not completed until next day or over a longer period of time, braze off the ends of the piping and charge with oxygen free nitrogen through a Schrader valve type access fitting to prevent moisture and particle contamination.

Do not use insulation material that contains  $\text{NH}_3$ , as it can damage copper pipe material and become a source of future leakage.

Completely insulate both refrigerant gas piping and liquid piping between the indoor unit and the outdoor unit.

If not insulated, in cooling mode and high ambient humidity conditions, dew will appear on the piping surface.

Refrigerant circuit and Water circuit must be performed and inspected by a licensed technician and must comply with all relevant European and national regulations.

#### **i** NOTE

A system with no moisture or oil contamination will give maximum performance and lifecycle compared to that of a poorly prepared system. Take particular care to ensure that all copper piping is clean and dry internally.

#### **!** DANGER

The system design pressure is 4.15 MPa. The compression strength of the pipes must exceed 12.45 MPa (3 times the design pressure).

#### **!** CAUTION

Cap the end of the pipe when pipe is to be inserted through a wall hole. Do not put pipes on the ground directly without a cap or vinyl tape at the end of the pipe.

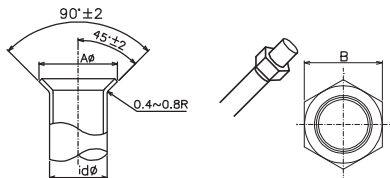
### 7.2 REFRIGERANT PIPE CONNECTIONS

The DX-Interface unit is set up to be connected by Flare Nut (factory supplied). Perform the indicated pipe work by maintaining the dimensions indicated in the following tables.

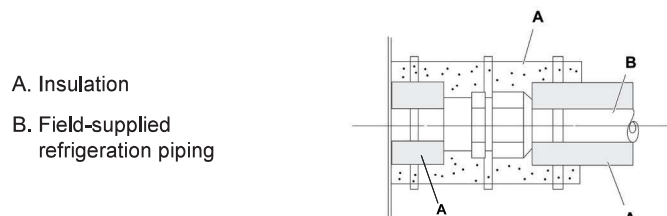
#### ◆ Size of pipes

units: mm (inch)

Units	Nominal diameters	Outer diameters	Flare pipe dimensions $A_{\phi} +0/-0.4$	Minimum thickness R410A	Flare nut dimensions B	Tightening Torque (Nm)
EXV-2.0E2	(1/4)	6.35	9.1	0.5	17	20
EXV-(2.5-10.0)E2	(3/8)	9.53	13.2	0.6	22	40



After connecting the refrigerant piping seal the open space between the knockout hole and refrigerant pipes by using insulation material as shown below:



- A. Insulation
- B. Field-supplied refrigeration piping

#### **i** NOTE

- Flare nuts tightening torque.
- Always use two wrenches or fix spanners when tightening the flare nuts on the refrigerant pipes.
- If any failure occurs during this process the result could be pipe damage or refrigerant leak.

## 7.3 BRAZING WORK

### ⚠ CAUTION

- Use nitrogen gas for blowing during pipe brazing. If oxygen, acetylene or fluorocarbon gas is used, it will cause an explosion or poisonous gas.
- A rust coating will appear inside of tubes if no nitrogen gas blowing is performed during brazing work. This film will be flecked off after operation and will circulate in the circuit, resulting in clogged expansion valves, etc, and the compressor will be affected.
- Use a reducer valve when nitrogen gas blowing is performed during brazing. The gas pressure should be maintained within 0.03 to 0.05 MPa. If excessively high pressure is applied to a pipe, it will cause an explosion.

## 7.4 REFRIGERANT CHARGE

### ⚠ DANGER

- Do not charge OXYGEN, ACETYLENE, or other flammable and poisonous gases into the refrigerant circuit, as an explosion could occur. It is recommended that oxygen free nitrogen be charged for these types of test cycles when performing a leakage test or an airtight test. These types of gases are extremely dangerous.
- Insulate the unions and flare-nuts at the piping connection part completely.
- Insulate the liquid piping completely to avoid a decreased performance; if not, it will cause sweating on the surface of the pipe.
- Charge refrigerant correctly. Overcharging or insufficient charging could cause a compressor failure.
- Check for refrigerant leakage in detail. If a large refrigerant leakage occurred, it would cause difficulty with breathing or harmful gases would occur if a fire were in the room.
- If the flare nut is tightened too hard, it may crack over time and cause refrigerant leakage.

### i NOTE

Please refer to Outdoor unit Installation Manual and Technical Catalogue for the calculating method of additional refrigerant charge according to the piping length.

### 7.4.1 DX-Interface refrigerant charge and piping length limits

DX-Interface refrigerant charge calculation and limits of piping length vs HEX volume is described in the following procedure, that only applies to 1 to 1 system with UTOPIA IVX RAS-XH(V)NP(1)E series and DX-Interface series 2. For any other system the standard calculation procedure applies. Refer to the Technical Catalogue of each system for further information.

The amount of refrigerant to be added to the system must be calculated according to pipe length and the volume of the heat exchanger (HEX), as well as the relation between these.

The following calculation procedure is applied only for 1-to-1 systems with UTOPIA IVX RAS-XH(V)NP(1)E series.

Total amount of refrigerant charge ( $M_{Total}$ ):

$$M_{Total} = m_L + m_{HEX}$$

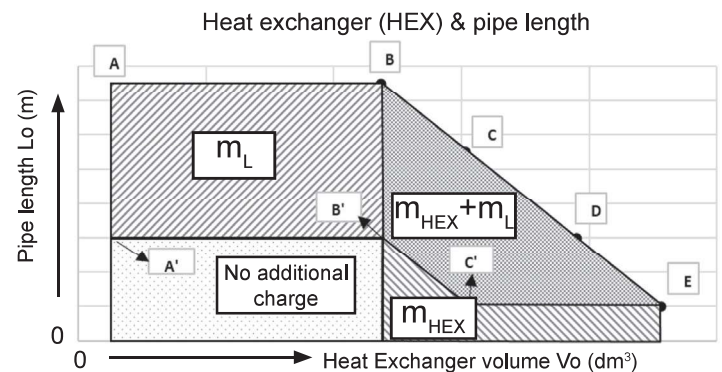
Whereas charge due to increased pipe length is calculated as follows:

$$m_L = (L - L_o) * \alpha$$

And charge due to the volume of the heat exchanger (HEX) is calculated as follows:

$$m_{HEX} = (V_{HEX} - V_o) * \beta$$

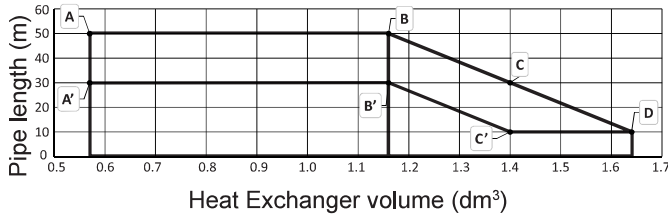
There are different areas defined according to the length of piping and the volume of the heat exchanger (HEX), as shown in the following graphic. Depending on the area, it may be necessary to calculate  $m_L$ ,  $m_{HEX}$  or both.



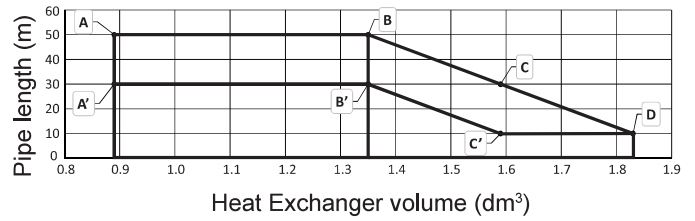
The heat exchanger expansion volume is restricted to certain applications. For those applications where it is not allowed, standard volume and piping restrictions apply.

Each DX-Interface series 2 model has its own graphic, as shown in the following page.

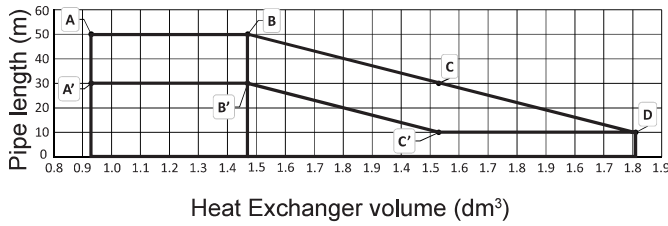
2 HP



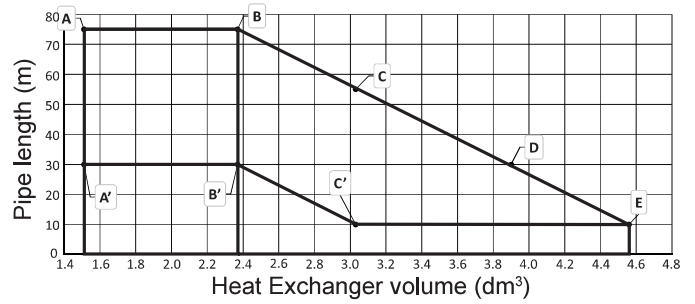
2.5 HP



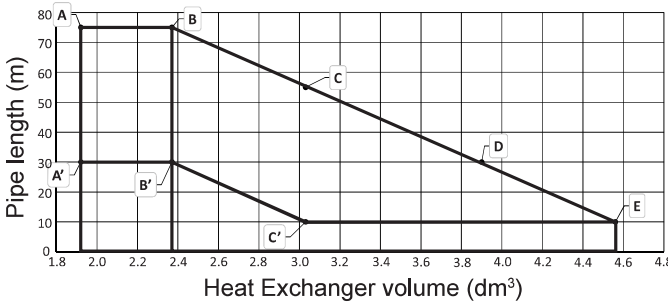
3 HP



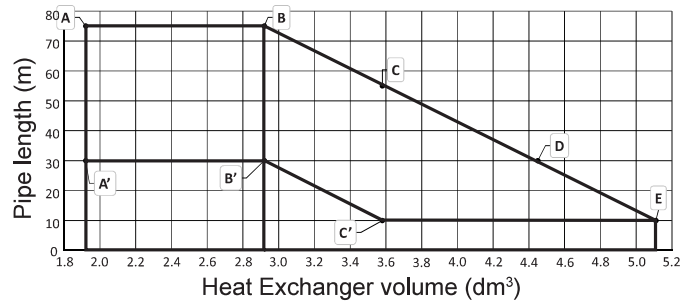
4 HP



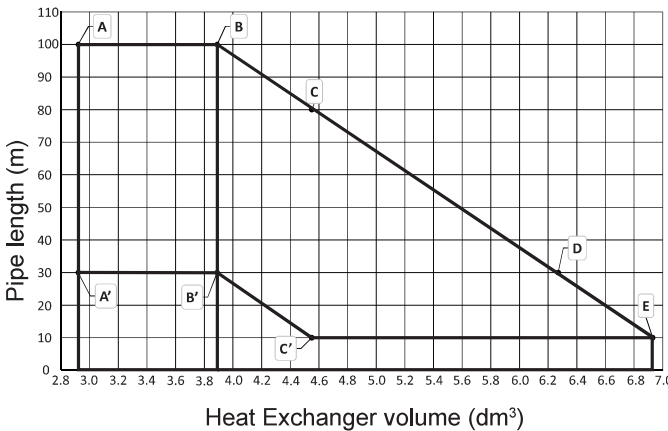
5 HP



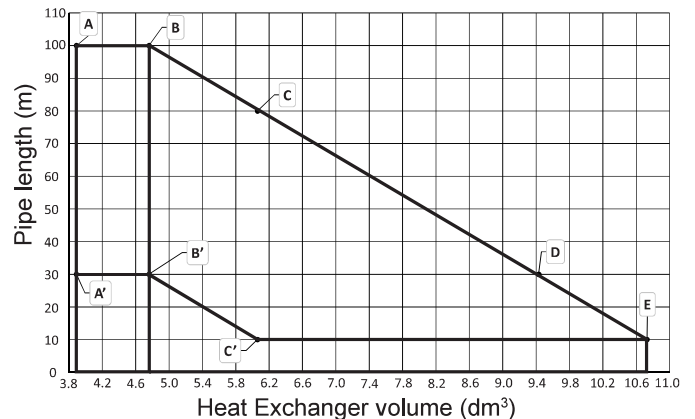
6 HP



8 HP



10 HP



### ◆ Table of values for area boundaries

Concept		DX-Interface HP							
		2 HP	2.5 HP	3 HP	4 HP	5 HP	6 HP	8 HP	10 HP
A	HEX Volume [dm <sup>3</sup> ]	0.57	0.89	1.03	1.51	1.92	1.92	2.92	3.89
	Pipe length [m]	50	50	50	75	75	75	100	100
A'	HEX Volume [dm <sup>3</sup> ]	0.57	0.89	1.03	1.51	1.92	1.92	2.92	3.89
	Pipe length [m]	30	30	30	30	30	30	30	30
B	HEX Volume [dm <sup>3</sup> ]	1.16	1.35	1.57	2.37	2.37	2.92	3.89	4.76
	Pipe length [m]	50	50	50	75	75	75	100	100
B'	HEX Volume [dm <sup>3</sup> ]	1.16	1.35	1.57	2.37	2.37	2.92	3.89	4.76
	Pipe length [m]	30	30	30	30	30	30	30	30
C	HEX Volume [dm <sup>3</sup> ]	1.4	1.59	2.23	3.03	3.03	3.58	4.55	6.06
	Pipe length [m]	30	30	30	55	55	55	80	80
C'	HEX Volume [dm <sup>3</sup> ]	1.4	1.59	2.23	3.03	3.03	3.58	4.55	6.06
	Pipe length [m]	10	10	10	10	10	10	10	10
D	HEX Volume [dm <sup>3</sup> ]	1.64	1.83	2.89	3.9	3.9	4.45	6.27	9.43
	Pipe length [m]	10	10	10	30	30	30	30	30
E	HEX Volume [dm <sup>3</sup> ]	-	-	-	4.56	4.56	5.11	6.93	10.73
	Pipe length [m]	-	-	-	10	10	10	10	10
α	-	0.03	0.03	0.04	0.06	0.06	0.06	0.06	0.12
β	-	1.26							
L_0 [m]	-	30m if HEX Volume ≤ V <sub>B</sub> Interpolation with points V <sub>B</sub> & V <sub>C</sub> if V <sub>B</sub> < HEX Volume < V <sub>C</sub> 10m if HEX Volume ≥ V <sub>C</sub>							
V_0 [dm <sup>3</sup> ]	-	1.16	1.35	1.57	2.37	2.37	2.92	3.89	4.76

## 7.5 CYCLE DESIGN EVAPORATING AND CONDENSING TEMPERATURES

Please make sure that the Heat Exchanger element to be connected to the DX-Interface series 2 satisfies the following installation and design requirements. Failure to satisfy any of the items below may cause unappropriated system response, malfunction of any of the system components, and/or damage to the components.

- The design pressure of the system is 4.15 MPa. The compression strength of the pipes must exceed 12.45 MPa (3 times the design pressure).
- The inner volume of the heat exchanger piping must be within the limits specified in the technical documentation of each DX-Interface series 2. Please make sure the design of the heat exchanger as well as the refrigerant charge follow such limitations.
- The capacity of the heat exchanger must meet the specified nominal capacity of each DX-Interface series 2 under the following temperature conditions. Failure to ensure heat exchanger capacity may lead to system malfunction.

Design temperatures	Heating	Design temperatures	Cooling
Air temperature:	DX-interface HEX (T <sub>in</sub> ): 20°C(DB) Outdoor: 7°C(DB)/6°C(WB)	Air temperature:	DX-Interface HEX (T <sub>in</sub> ): 27°C(DB)/19°C(WB) Outdoor: 35°C(DB)
Condensing Temperature:	40°C ~ 45°C	Evaporation Temperature:	6°C
Subcooling Temperature:	3°C	Superheating Temperature:	5°C

## 8 ELECTRICAL WIRING

### 8.1 GENERAL CHECK

- 1 Ensure that the field-supplied electrical components (mains power switches, circuit breakers, wires, connectors and wire terminals) have been properly selected according to the electrical data indicated. Make sure that they comply with national and regional electrical codes.
- 2 Check to ensure that the power supply voltage is within +/- 10% of the rated voltage.
- 3 Check to ensure that the power supply has an impedance low enough to guarantee that the starting voltage is at least 85% of the rated voltage.
- 4 Check to ensure that the ground wire is connected.
- 5 Connect a fuse of specified capacity.

#### DANGER

Check to ensure that screws for terminal block are tightly fastened.

#### CAUTION

- Protect the wires, drain pipe and electrical parts from rats or other small animals. If not protected, rats may damage unprotected parts, and in the worst case scenario a fire could break out.

- Wrap the accessory packing around the wires, and plug the wiring connection hole with the sealing material to protect the product from any condensed water and insects.
- Tightly secure the wires with the cord clamp inside the indoor unit.
- Lead the wires through the knockout hole in the side cover when using conduit.
- Electrical wiring must comply with national and local codes.
- Check that the ground wire is securely connected.

#### DANGER

- Do not connect or adjust any wiring or connections unless the main power switch is OFF.
- Check that the earth wire is securely connected, tagged and locked in accordance with national and local codes.

#### NOTE

Please refer to Outdoor and connected device installation manual.

#### CAUTION

All the field wiring and electrical components must comply with local codes.

### 8.2 ELECTRICAL WIRING BETWEEN DX-INTERFACE AND INDOOR AND OUTDOOR UNIT

- Connect the electrical wires between the indoor unit and the outdoor unit, as shown in the next diagram.
- Follow the local codes and regulations when performing the electrical wiring.
- Use shielded wires for intermediate wiring to protect the units from noise obstacle at length of less than 300 m and size in compliance with local codes.
- In the event that a conduit tube for field-wiring is not used, fix rubber bushes to the panel with adhesive.
- All the field wiring and equipment must comply with local and international codes.
- When a cable gland is not used, it must be sealed properly in order to ensure the correct control box sealing.

#### CAUTION

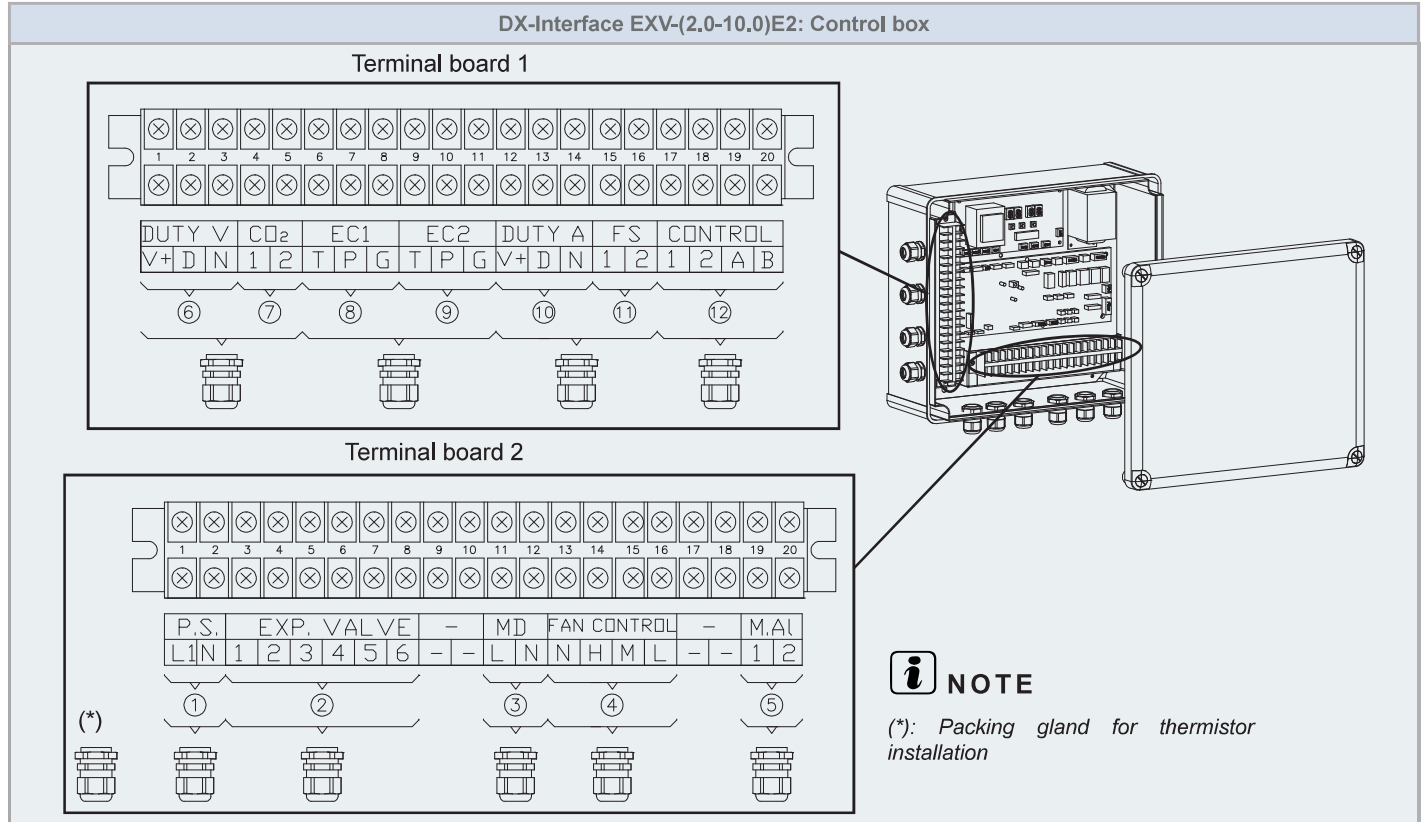
Pay attention to the connection of the operating line. Incorrect connection may cause PCB failure.

#### NOTE

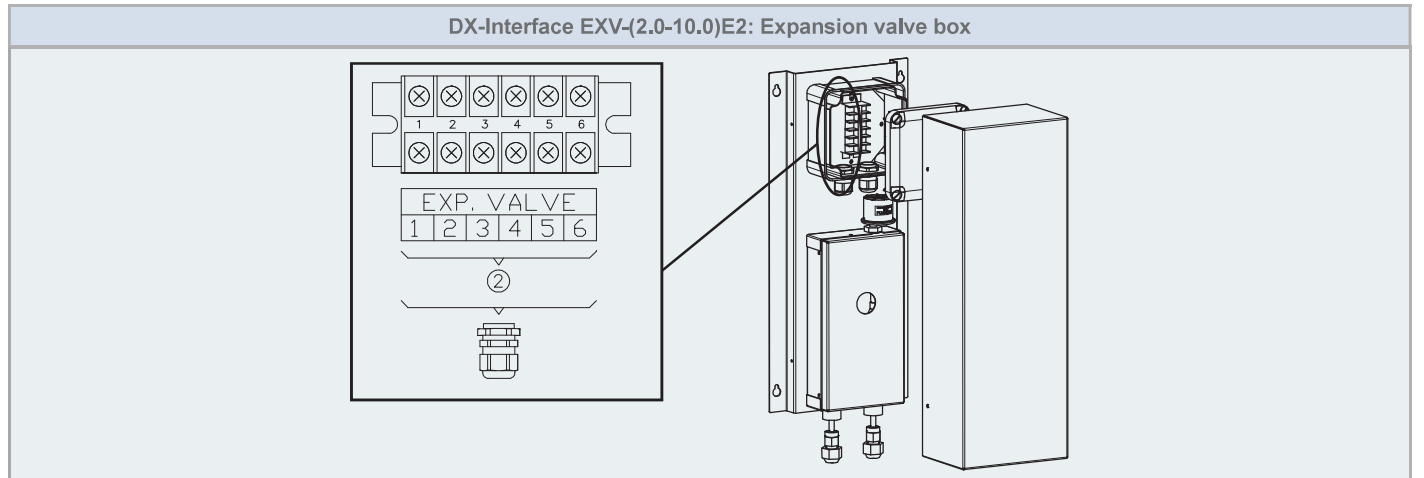
- This device is supplied with packing glands and their corresponding plugs in order to keep its IP degree of protection. Only those plugs in the packing glands intended to be used for cable connections shall be removed.
- After inserting a cable in the packing gland, it must be tightened with a torque of 8 Nm in order to keep the IP degree of protection of the device. The external diameter of the cables used for connection shall be in the 6~12 mm range.
- Packing gland diameter specification: 6.0 mm (min) to 12.0 mm (max). If needed, install additional tube insulation or wind with insulation tape around the wire to make the wire thicker.

MODEL	CB [A] (External Fuse)	ELB [poles/A/mA]	CABLE SIZE [mm <sup>2</sup> ]
EXV-(2.0-10.0)E2	5	2/40/30	0,75

**8.2.1 Control box terminal board**





**8.2.2 Expansion valve box terminal board**



### 8.2.3 Terminal board connection and remarks

#### ◆ Control box

##### Terminal board 1

Mark	Item	Name	Description	Wire and maximum current specification (EN60335-1)
⑥	1	V+	<b>DUTY V: Duty control by voltage (0~10V) (0~5V) (optional):</b> V+: Output power to device (+24Vdc)	Wire section: 3x0,5 mm <sup>2</sup>   <b>NOTE</b> <i>Maximum power by 24Vdc output: 3 W</i>
	2	D	D: Voltage input (0~10V) (0~5V)	
	3	N	N: GND	
⑦	4	1	<b>CO<sub>2</sub> signal (optional):</b> Free contact: By closing the signal, the fan speed is set to High mode.	Wire section: 2x0,5 mm <sup>2</sup>
	5	2		
⑧	6	T	<b>EC1: PWM Output control for EC FAN 1 (optional):</b> T: Tach input signal (Hz)	Wire section: 3x0,5 mm <sup>2(1)</sup>
	7	P	P: PWM output signal (0-100%)	
	8	G	G: GND	
⑨	9	T	<b>EC2: PWM Output control for EC FAN 2 (optional):</b> T: Tach input signal (Hz)	Wire section: 3x0,5 mm <sup>2(1)</sup>
	10	P	P: PWM output signal (0-100%)	
	11	G	G: GND	
⑩	12	V+	<b>DUTY A: Duty control by current (4~20mA) (optional):</b> V+: Output power to device (+24Vdc)	Wire section: 3x0,5 mm <sup>2</sup>   <b>NOTE</b> <i>Maximum power by 24Vdc output: 3 W</i>
	13	D	D: Current input (4~20 mA)	
	14	N	N: GND	
⑪	15	1	<b>FS: Flow switch (optional):</b> Free contact between terminals 1(15) and 2(16)	Wire section: 2x0,5 mm <sup>2</sup>
	16	2		
⑫	17	1	<b>CONTROL: H-LINK and remote controller communication (Necessary):</b> The H-LINK transmission between outdoor unit and indoor unit is 2 wired to terminals 1-2.	Wire section: 2x0,5mm <sup>2</sup>
	18	2		
	19	A	The Remote controller must be connected between pins A and B (non polarity)	Wire section: 2x0,5 mm <sup>2</sup>
	20	B		

#### NOTE

(\*1): If fan wiring length is higher than 3m, use shielded wires in compliance with local codes.



**Terminal board 2**

Mark	Item	Name	Description	Wire and maximum current specification (EN60335-1)	
①	1	L1	<b>P.S.: Power supply (necessary):</b> The mains power supply connection (230Vac) is wired to terminals L1 and N.	1~ 230V 50Hz, Max current: 5A Wire section: 3x0,75 mm <sup>2</sup>	
	2	N			
②	3	1	<b>EXP. VALVE: Expansion valve connection (necessary):</b> Link to expansion valve assembly. Number links from 1 to 6 must match in e-box terminal board and expansion valve terminal board	Wire section: 6x0,5 mm <sup>2</sup>	
	4	2			
	5	3			
	6	4			
	7	5			
	8	6			
-	9	-	Not used	-	
	10	-			
③	11	L	<b>MD: Motor Drain discharge (optional):</b> A drain water pump (field supplied) can be connected to DX-kit interface	1~ 230V 50Hz Max current: 1A (output) Wire section: 2x0,75 mm <sup>2</sup>	
	12	N			
④	13	N	<b>FAN CONTROL: Fan tap speed control by HITACHI remote controller (optional):</b> N-Neutral phase connection (common)	Maximum current allowed: 3,5A Wire section: 4x0,75 mm <sup>2(1)</sup>	
	14	H			H: High fan speed signal
	15	M			M: Medium fan speed signal
	16	L			L: Low fan speed signal
-	17	-	Not used	-	
	18	-			
⑤	19	1	<b>M. AL: Motor alarm signal:</b> Alarm input signal can be used for alarm link between the DX-Interface and the unit connected. If the jumper between terminal 1 (19) and 2 (20) is open, unit will be switched to alarm condition. Connect again to restart the system	Wire section: 2x0,75 mm <sup>2(2)</sup>	
	20	2			

** NOTE**

- (\*1): Locked rotor amperage (LRA) must be lower than 8A.
- (\*2): Alarm signal with high voltage (1~ 230V 50Hz): Connection in M.AL. terminals is mandatory. In case that motor alarm detection were not necessary, make sure to connect the harness jumper provided with the DX-Interface.

**◆ Expansion valve box**

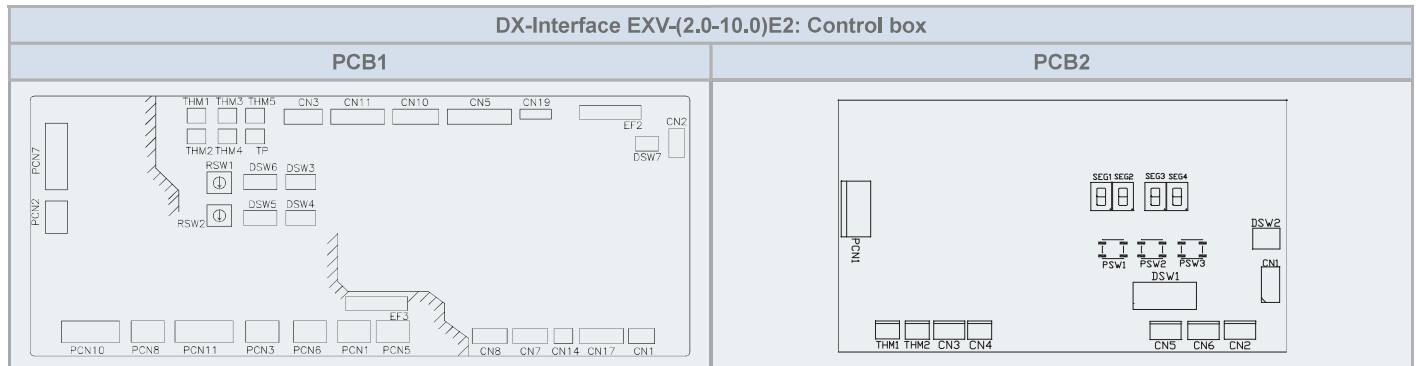
Mark	Item	Name	Description	Wire and maximum current specification (EN60335-1)
②	1	1	Control connection (necessary): Link to control assembly. Number links from 1 to 6 must match in expansion valve terminal board and control terminal board.	Wire section: 6x0,5 mm <sup>2</sup>
	2	2		
	3	3		
	4	4		
	5	5		
	6	6		



## 8.3 DIP SWITCH SETTINGS

### 8.3.1 Quantity and location of Dip Switches

Dips switches are located in printed circuit boards of control box, as it is shown below:



### ⚠ CAUTION

Before setting DIP switches, firstly turn off power source and set the position of the dips switches. If the switches are set without turning off the power source, the contents of the setting are invalid.

#### ◆ PCB1 settings

##### DSW3: Capacity code setting

No setting is required. This DIP switch is used to set the capacity code corresponding to the DX-Interface power (HP).

HP	2.0	2.5	3.0	4.0
Factory setting				
HP	5.0	6.0	8.0	10.0
Factory setting				

##### DSW4: Unit model code setting and optional setting

No setting is required.

Factory setting	
Enabled EC fan motor alarm by tach input (Set pin 4 to ON position)	

##### DSW5 and RSW2: Refrigerant cycle number setting

Setting is required. This switch is used to set the refrigerant cycle number.

Refrigerant cycle number example	DSW5		RSW2
00 (Factory setting)		+	
16			

##### DSW6 and RSW1: Unit number setting

Set DSW6 and RSW1 to modify the indoor unit address. The setting must be made so that it does not overlap the setting of other indoor units in the same refrigerant cycle. If the setting is not made manually, the automatic address function will be enable.

Set to a value of up to 63.

Unit number example	DSW6		RSW1
00 (Factory setting)		+	
06			

##### DSW7 switch: Fuse recovery

No setting is required.












Factory setting	
Fuse recovery (*1)	

### i NOTE

- (\*1): In case of applying high voltage to the terminals 1 and 2 of control connection (items 17 and 18 of TB2) the fuse on the PCB1 is cut. In such a case, firstly correct the wiring to TB1 and then turn ON the pin 1.
- The mark ■ indicates position of dip switches. Figures show setting before shipment or after selection.

## ◆ PCB2 settings

## DSW1: Optional functions


Factory setting		
Pins 1 and 2: Capacity control setting	Discharge air control (Control by outlet temperature)	
	Indoor air control (Control by inlet temperature)	
	External duty control (*1)	
Pins 3 and 4: Duty signal setting (*1)	4~20 mA (Internal 100Ω load impedance)	
	0~10 V (Internal 47kΩ pull-down resistor)	
	0~5 V (Internal 47kΩ pull-down resistor)	
Pin 5: Duty mode selection (*2)		
Pin 6: Thermo ON/OFF external input enabled (*3)		
Pin 7: Group controller (*4)		
Pin 8: Not used		

 NOTE

- (\*1): If external duty control is selected (pins 1-2), then check the proper selection for the duty signal (pins 3-4).
- (\*2): If external duty control is selected (pins 1-2-3-4), then turn pin 5 OFF for absolute reference or ON for incremental reference.
- (\*3): The thermo ON/OFF control can be driven externally by an input signal connected to the CN3 socket of the PCB1. The pin 6 of DSW1 in PCB2 must be switched on, and then the "i1" input of CN3 is automatically set for thermo ON/OFF control. The setting of "i2" input is kept as set on the remote controller.
- (\*4) Pin 7: ON: group controller OFF: individual controller
- Please refer to the Service Manual of HITACHI Indoor Units for further information about the setting and connection of the auxiliary inputs.

## DSW2: End resistance

No setting is required.

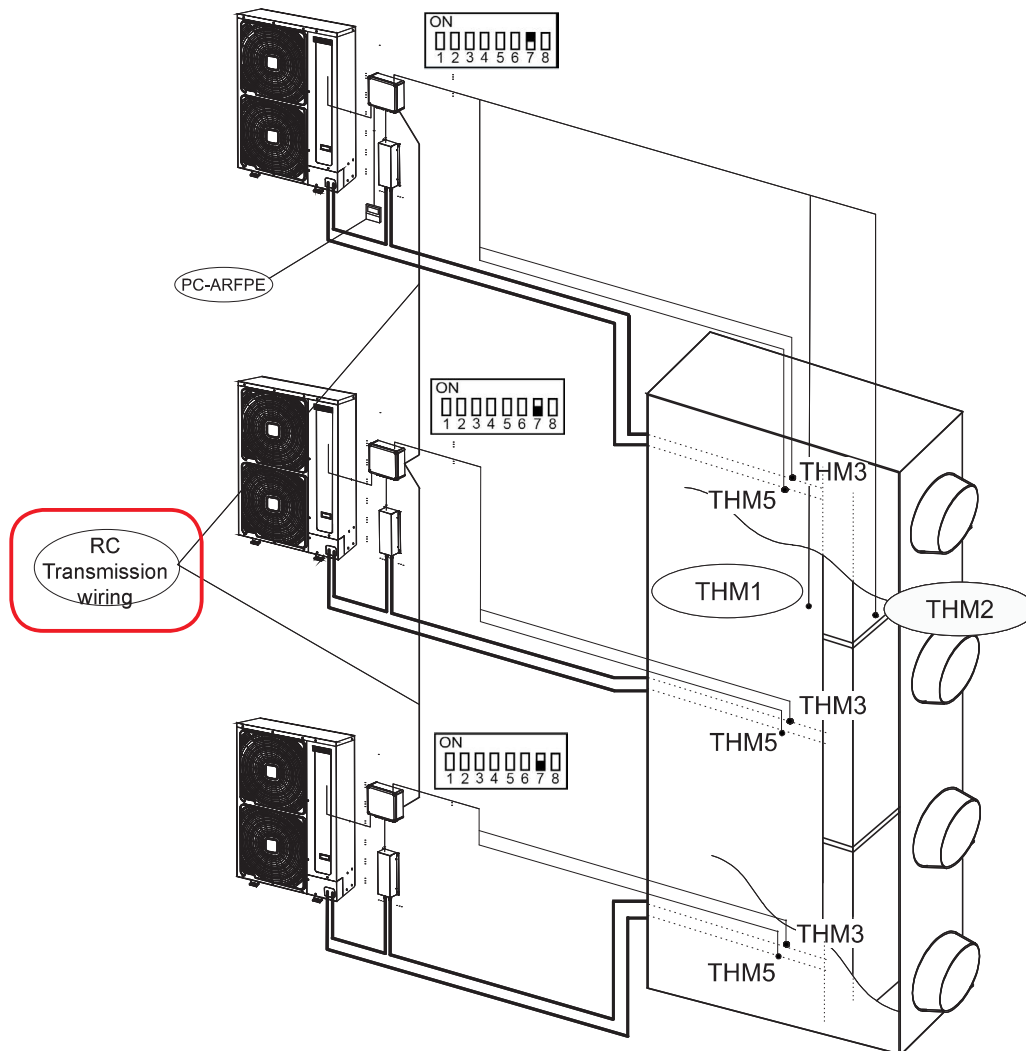
All units


## 9 MULTIPLE DX-INTERFACE SERIES 2 INSTALLATION

Up to 5 DX-Interface series 2 working with the same indoor unit or device with heat exchanger (HEX) can be installed. Such installation setting is restricted to certain applications, and by the installation of the dedicated IVX Premium RAS-XH(V)NP(1)E. This configuration is not allowed for other outdoor units.

### ◆ Installation considerations

- One unit of DX-Interface series 2 is to be set as a group controller, while all the other group members are slave (PCB2, DSW1, pin 7).
- Air thermistors (THM1 and THM2) are only connected to the DX-Interface series 2 set as group controller. However, every DX-Interface needs to be connected to its own pipe thermistors (THM3 and THM5).
- One remote controller PC-ARFPE has to be installed in the DX-Interface series 2 set as group controller and all DX-Interfaces series 2 must be linked through the remote control transmission wiring.
- Outdoor units must be of the same capacity. It is recommended to split the heat exchanger in as many parts as DX-Interface series 2 are used in the air stream direction, ensuring that all the HEX sections have equivalent inlet air flow and temperature conditions.



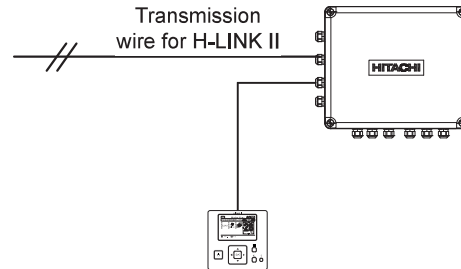
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## 10 REMOTE CONTROL PC-ARFPE

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### 10.1 INSTALLATION

A dedicated remote controller (PC-ARFPE) must be connected to the DX-Interface series 2. Only this remote control model (PC-ARFPE) can be used and only one remote control can be connected to the DX-Interface series 2.



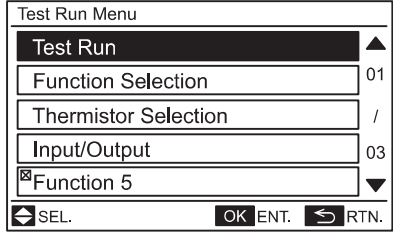
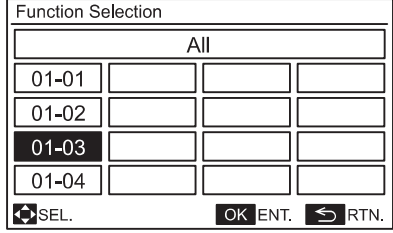
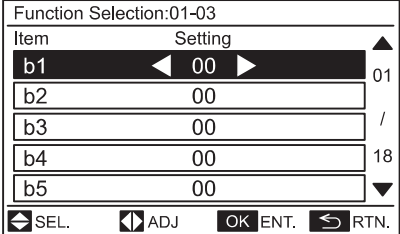
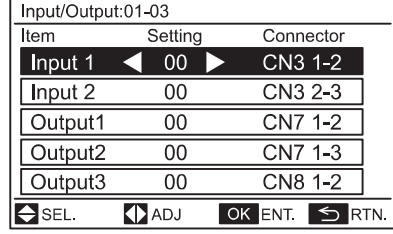
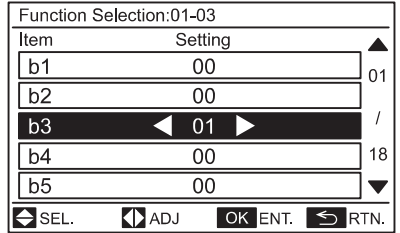
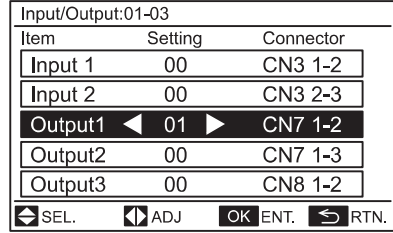
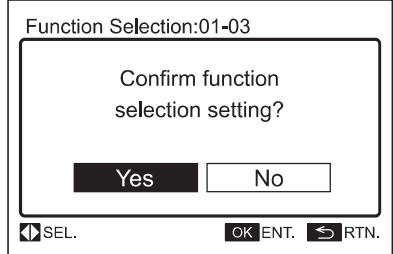
#### NOTE

Central controllers are only compatible when the system is in control by Inlet temperature.

# 11 OPTIONAL FUNCTIONS

## 11.1 OPTIONAL FUNCTION SELECTION THROUGH PC-ARFPE

### ◆ Function Selection and Input/Output

<p>1 Press and hold “☰” (menu) and “↵” (return) simultaneously for at least 3 seconds during the normal mode (when unit is not operated). The test run menu will be displayed.</p>	
<p>2 Select “Function Selection” or “Input/Output” from the test run menu and press “OK”.</p>	
<p>3 Select the indoor unit by pressing “△ ▽ ◀ ▶” and press “OK”. (This screen is NOT displayed when the number of indoor unit connected with the remote control switch is 1 (one). In this case, (4) will be displayed.)</p>	<p>Arrows pointing down to the next row of steps.</p>
<p>4 Press “△ ▽” and select the item.</p> 	<p>4 Press “△ ▽” and select the item.</p> 
<p>5 Press “◀ ▶” and change the setting.</p> 	<p>5 Press “◀ ▶” and change the setting.</p> 
<p>6 Press “OK” so that the confirmation screen will be displayed.</p> <p>7 Select “Yes” and press “OK”. The test run menu will be displayed after the setting is confirmed. If “No” is pressed, the screen will return to (4).</p> <p>8 Press “↵” (return) on the test run menu to return to the normal mode.</p>	 <p>(Figure for Function Selection)</p>

To set other units, press “↵” (return) at (4)(5) so that the screen will return to (3). (If the number of indoor unit connected with the remote control switch is 1 (one), the screen will return to (1).)

◆ Table A Optional Setting Items for Function Selection

Items	Optional Function	Setting condition	Contents	Description
b3	Enforced 3 Minutes minimum operation time of compressor	00 01	Disable Enable	With this option function, compressor cannot be OFF during 3min after compressor ON, however, it is STOP immediately at protection device activated. It also be STOP immediately at stop by operation SW.
b4	Change of filter cleaning time	00 01 02 03 04	Standard 100 hrs 1,200 hrs 2,500 hrs No indication	Fan operation time is accumulated and filter sign turns on in at set time in the remote control.
b5	Fixing of operation mode	00 01	Standard Fixed	Once the unit operating mode has been selected, this function prevents it from being modified from the remote control.
b6	Fixing of setting temperature	00 01	Standard Fixed	Once the temperature on the unit has been selected, this function prevents it from being modified from the remote control
b7	Fixing of operation as exclusive cooling unit	00 01	Standard Fixed	Fix to use cooling mode only and to prevent heating mode from being enabled.
b8	Automatic COOL/HEAT operation	00 01	Disable Enable	Allows, from cooling mode, change automatically to heating mode (for all units of the same refrigerant cycle)
b9	Fixing of fan speed (Air flow fix)	00 01	Standard Fixed	Once the fan speed on the unit has been selected, this function prevents it from being modified from the remote control
C3	Fan stop delay	00	0 minutes (Factory setting)	Airflow is kept in setting airflow after unit normal stoppage during "Delay Time".
		01	60 minutes	
C8	Thermistor selection for control	00	Control by inlet air thermistor (Factory setting)	
		01	Control by thermistor of remote control switch	
		02	Control by average value of indoor suction thermistor and thermistor of remote control switch	
Cb	Selection of forced stoppage logic	00	Forced stoppage input: A Contact (contact closed)	
		01	Forced stoppage input: B Contact (contact open)	
CC	Fixed High ventilation fan speed	00	Disable (factory setting)	The unit runs at maximum fan speed (RCS High level) under any condition
		01	Enabled	
CF	Fan stoppage delay	00	Disable	
		01	60 minutes	
d1	Power supply ON/OFF 1	00	Disable	
		01	Enable	
d3	Power supply ON/OFF 2	00	Disable	
		01	Enable	
E1	"A" offset for Thermo ON/OFF in control by Outlet for DX-Interface	00	0°C (factory setting)	This function is used to set the value of the offset in the formula for deciding about Thermo ON/OFF condition by inlet air temperature for Control by Outlet Temperature.
		01	2°C	
		02	4°C	
E4	Pre-cooling / Pre-heating period	00	Standard	This function delays start-up of the air conditioning system.
		01	30 minutes	
		02	60 minutes	
E5	High ventilation after switch ON	00	0 minutes (Factory setting)	The unit runs in high speed during a certain minutes after switch on the unit. After that time the fan speeds runs at set fan speed.
		01	60 minutes	

 **NOTE**

- After at least 3 minutes from the power ON, change the optional setting.
- Record the setting conditions for each optional setting in the "Setting" column of the table.

## 11.2 INPUT AND OUTPUT SIGNALS

◆ **Table B Input and Output Number Display and Connectors**

Input number display	Port	Factory setting	
Input/Output indication		Setting item	Indication
Input 1	CN3 1-2	Remote ON/OFF 1 (Level)	03
Input 2	CN3 2-3	Prohibiting Remote Control after Manual Stoppage	06
Output 1	CN7 1-2	Operation	01
Output 2	CN7 1-3	Alarm	02
Output 3	CN8 1-2	Thermo-ON for Heating	06

When Thermo ON/OFF input enabled (PCB2-DSW1-6=ON), i1 optional signal is not available

◆ **Table C Input and Output Settings and Display Codes**

Indication	Input	Output
00	Not set	Not set
01	Room Thermostat (for Cooling)	Operation (run)
02	Room Thermostat (for Heating)	Alarm
03	Remote ON/OFF 1 (Contact/Level)	Cooling
04	Remote ON/OFF 2 (Pulse: Operation)	Thermo-ON for Cooling
05	Remote ON/OFF 2 (Pulse: Stoppage)	Heating
06	Forbidding Remote Control after Manual Stoppage	Defrost
07	Remote Cooling / Heating Change	--

### NOTE

- After at least 10 seconds from the power ON, change the optional setting.
- Record the setting conditions for each input and output.

## 11.3 OPTIONAL FUNCTIONS THROUGH THE PCB1

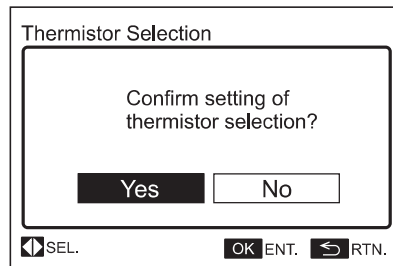
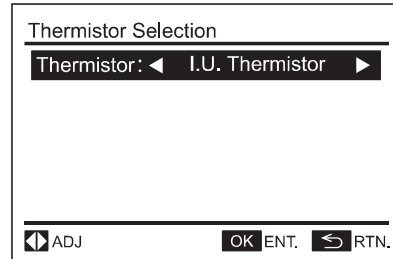
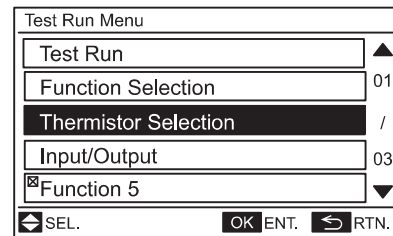
Indication	Function	Setting status
Ct	CO <sub>2</sub> sensor type	00: ON/OFF CO <sub>2</sub> signal 01: Activated 4-20mA signal 02: Activated 0-10V signal
	S1: Set minimum	Default (00: 4 / 01: 0) Range (00: 4~S2 / 01: 0~S2)
	S2: Set maximum	Default (00: 20 / 01: 10) Range (00: S1~20 / 01: S1~10)
dF	Defrost Fan	00: Fan Low operation (Default) 01: Fan kept operation 02: Fan stopped operation

## 12 THERMISTOR SELECTION

This function changes the temperature thermistor from indoor unit thermistor to thermistor of remote control switch or an average between both temperatures.

This selection is the same done through the optional function C8.

- Press and hold “☰” (menu) and “↵” (return) simultaneously for at least 3 seconds during the normal mode (when unit is not operated). The test run menu will be displayed.
- Select “Thermistor Selection” from the test run menu and press “OK”.
- Change the temperature thermistor item by pressing “◀▶” and press “OK”.
  - IU Thermistor: Control by inlet air thermistor (Factory setting)
  - THM of RSCW: Control by thermistor of remote control switch
  - Average of THM: Control by average value of indoor suction thermistor and thermistor of remote control switch
- Select “Yes” and press “OK”. The test run menu will be displayed after the setting is confirmed. If “No” is pressed, the screen will return to (3).
- Press “↵” (return) on the test run menu to return to the normal mode.



## 13 DX-INTERFACE ALARM CODES

Alarm Code	Detail of Abnormality	Main Factors
01	Activation of protection device	Float switch activation (high water level in drain hose or abnormality in drain pipe, float switch or drain pan)
03	Transmission error with the outdoor unit	Outdoor fuse meltdown, Indoor/outdoor connection wiring (breaking, wiring error, etc.)
11	Air outlet thermistor	If IU as group controller: Loose, disconnected, broken or short-circuited connector If IU as normal unit: no thermistor and no Group message received
12	Air inlet thermistor	If IU as group controller: Loose, disconnected, broken or short-circuited connector If IU as normal unit: no thermistor and no Group message received
13	Liquid pipe thermistor	Loose, disconnected, broken or short-circuited connector
14	Gas pipe thermistor	Loose, disconnected, broken or short-circuited connector
19	Indoor fan protection device activation for Fan	Fan motor overheating, locking
31	Incorrect setting of outdoor and indoor units	Outdoor/Indoor Unit capacity setting error, Indoor total capacity excessively large/small
35	Indoor Unit Number Setting Error	Indoor units with the same number exist in a refrigerant piping system
70	Abnormal transmission between PCB1 and PCB2	Loose, disconnected
71	Incorrect PCBs setting	Wrong setting are performed in PCBs
73	Incorrect 4-20mA, 0-10V, 0-5V, 0-10kΩ setting	Loose, disconnected, broken or short-circuited connector
EE	Compressor protection alarm (cannot be reset from the remote controller)	This alarm code is displayed when the following alarms are triggered three times within six hours: 02, 07, 08, 39, 43 to 45, 47

### NOTE

Alarms with origin in Outdoor unit, compressor and system are explained in outdoor unit technical documentation.